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Climate Balkanization: Dormant Commerce and the Limits of State Energy Policy

Jonathan H. Adler[*]

INTRODUCTION

Over the past decade, states have enacted an array of policies to encourage the use of renewable energy sources and otherwise reduce the carbon intensity of energy production.[1] Such policies range from subsidies for desired forms of energy, to market-share mandates, to direct regulation of emissions.[2] As has become somewhat traditional, California has been particularly aggressive in its adoption of regulatory measures.[3]

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1. *See, e.g.*, Daniel A. Farber, *Climate Policy and the United States System of Divided Powers: Dealing with Carbon Leakage and Regulatory Linkage*, 3 TRANSNATIONAL ENVTL. L. 31, 34 (2014), ("By 2006, every state had enacted legislation relevant to climate change."); Uma Outka, *Environmental Law and Fossil Fuels: Barriers to Renewable Energy*, 65 VAND. L. REV. 1679, 1693 (2012) (noting state and local initiatives to promote renewable energy); James W. Coleman, *Importing Energy, Exporting Regulation*, FORDHAM L. REV. (forthcoming) (manuscript at 13) ("[S]tates remain the focus of energy regulation and the most important energy policy innovators."). *See also generally* Robert B. McKinstry, Jr., *Laboratories for Local Solutions to Global Problems: State, Local, and Private Leadership in Developing Strategies to Mitigate the Causes and Effects of Climate Change*, 12 PENN ST. ENVTL. L. REV. 15 (2004).

2. For a survey of relevant state policies, *see* David R. Hodas, *State Initiatives*, *in* GLOBAL CLIMATE CHANGE AND U.S. LAW 303–40 (Jody Freeman & Michael Gerrard eds., 2d ed. 2014). *See also* Lesley K. McAllister, *Cap-and-Trade*, *in* GLOBAL CLIMATE CHANGE AND U.S. LAW 341–74 (Jody Freeman & Michael Gerrard eds., 2d ed. 2014) (discussing state-level emission trading policies).

3. *See* Ann E. Carlson, *Regulatory Capacity and State Environmental Leadership: California's Climate Policy*, 24 FORDHAM ENVTL. L. REV. 63, 65 (2013). *See also* Kimberly Cobo, *California Global Warming Solutions Act of 2006: Meaningfully Decreasing Greenhouse Gas Emissions or Merely A Set of Empty Promises?*, 41 LOY. L.A. L. REV. 447, 453 (2007); *infra* Part IV.B. *See also generally* DAVID VOGEL, TRADING UP: CONSUMER AND ENVIRONMENTAL REGULATION IN THE GLOBAL ECONOMY 259–60 (1995) (discussing the "California effect," whereby California's leadership in environmental regulation has encouraged replication in other jurisdictions).

Many of these state-level policies have been justified as efforts to address the threat of global climate change by reducing greenhouse gas (GHG) emissions from the energy sector.[4] Until the Supreme Court determined that GHGs could be regulated as "pollutants" under the Clean Air Act (CAA) in 2007,[5] the federal government had failed to take any meaningful regulatory actions to reduce GHG emissions.[6] This lack of action left room for the states to fill.[7] Indeed, by some accounts, state regulatory efforts were driven, in part, by a desire to spur federal climate legislation.[8]

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4. *See* Jim Rossi, *The Political Economy of Energy and Its Implications for Climate Change Legislation*, 84 TULANE L. REV. 379, 401 (2009) ("[S]tate and local governments have taken a particularly aggressive approach to addressing climate change, in many instances beating federal regulators and Congress to the punch."); BARRY G. RABE, PEW CENTER ON GLOBAL CLIMATE CHANGE, GREENHOUSE AND STATEHOUSE: THE EVOLVING STATE ROLE IN CLIMATE CHANGE ix (2002) ("The trend is unmistakably towards more states taking an active role in climate change.").

5. *See* Massachusetts v. EPA, 549 U.S. 497, 534–35 (2007).

6. *See* Kirsten H. Engel & Barak Y. Orbach, *Micro-Motives for State and Local Climate Change Initiatives*, 2 HARV. L. & POL'Y REV. 119, 119 (2008). Since 2008, however, the federal government has proposed and promulgated several regulations controlling emissions of greenhouse gases. *See also* Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs (Timing Rule), 75 Fed. Reg. 17004 (Apr. 2, 2010) (to be codified at 40 C.F.R. pts. 50, 51, 70, 71), *invalidated by* Util. Air Regulatory Grp. v. EPA, 134 S. Ct. 2427 (2014); Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards (Tailpipe Rule), 75 Fed. Reg. 25324 (May 7, 2010) (to be codified at 40 C.F.R. pts. 85, 86, 600 and 49 C.F.R. pts. 531, 533, 536, 537, 538); Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule (Tailoring Rule), 75 Fed. Reg. 31514 (June 3, 2010) (to be codified at 40 C.F.R. pts. 51, 52, 70, 71), *invalidated by* Util. Air Regulatory Grp. v. EPA, 134 S. Ct. 2427 (2014); Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act (Endangerment Finding), 74 Fed. Reg. 66496 (Dec. 15, 2009) (to be codified at 40 C.F.R. ch. 1); Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34830 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60); Carbon Pollution Standards for Modified and Reconstructed Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34960 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60). For an overview of federal regulatory initiatives triggered by *Massachusetts v. EPA*, *see* Jonathan H. Adler, *Heat Expands All Things: The Proliferation of Greenhouse Gas Regulation under the Obama Administration*, 34 HARV. J. OF L. & PUB. POL'Y 421 (2011).

7. *See* Ann E. Carlson, *Federalism, Preemption, and Greenhouse Gas Emissions*, 37 U.C. DAVIS L. REV. 281, 282 (2003) (noting that many states "have quietly begun to fill the void in leadership that some believe exists at the national level").

8. *See* Engel & Orbach, *supra* note 6, at 126–27 (providing examples of state and local governments pooling resources to compel the federal government to pursue regulatory action on climate change). *See also* Roderick M. Hills, Jr.,

Through the imposition of mandates on what sorts of energy may be produced or sold, state regulatory efforts have imposed burdens on interstate energy markets. In some cases, these burdens are explicit, as when states have privileged in-state energy sources at the expense of out-of-state producers or sellers.[9] In other cases, these burdens are the inevitable consequence of state efforts to reduce the environmental impacts of energy consumed within the state.[10] Such restrictions, and their associated burdens on interstate commerce, raise serious constitutional questions. Under the so-called "Dormant Commerce Clause,"[11] state regulations that discriminate against out-of-state actors are presumptively unconstitutional, as are state regulations that seek to extra-territorialize a state's regulatory choices. Even purportedly non-discriminatory measures may be suspect if they impose an excessive burden on interstate commerce in relation to the in-state benefits they produce.

Advocates of these policies argue that such effects are the necessary consequence of state efforts to reduce GHG emissions.[12]

Against Preemption: How Federalism Can Improve the National Legislative Process, 82 N.Y.U. L. REV. 1, 20 (2007) (stating that state laws "spur interest groups to raise issues that might otherwise never receive congressional attention"); E. Donald Elliott et al., *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. ECON. & ORG. 313, 326 (1985) (noting that much of federal environmental law is a result of special interest groups opposing inconsistent and stringent state regulatory standards).

9. *See infra* notes 192–98 and accompanying text.

10. *See* Coleman, *supra* note 1; Yvonne Gross, *Kyoto, Congress, or Bust: The Constitutional Invalidity of State CO2 Cap-and-Trade Programs*, 28 T. JEFFERSON L. REV. 205, 222 (2005) ("State-level approaches to regulating GHGs, while laudable, will inevitably impact interstate markets, thereby implicating the constitutional limits on state action imposed by the Commerce Clause.").

11. The title "Dormant Commerce Clause" can be attributed to Chief Justice John Marshall's opinion in *Gibbons v. Ogden*, 22 U.S. 1 (1824). *See* Sidney M. Wolf, *The Solid Waste Crisis: Flow Control and the Commerce Clause*, 39 S.D. L. REV. 529, 569 n.88 (1994). In *Gibbons v. Ogden*, Chief Justice Marshall, in dicta, wrote that the power to regulate interstate commerce "can never be exercised by the people themselves, but must be placed in the hands of agents, or lie dormant." 22 U.S. at 189. *See also* Michael S. Greve, *The Dormant Commerce Clause as an Ex Ante Rule*, 3 J.L. ECON. & POL'Y 241, 241 (2007) (noting criticism of doctrine as "debatable inference at best and a wholesale judicial invention at worst").

12. *See, e.g.*, Daniel K. Lee & Timothy P. Duane, *Putting the Dormant Commerce Clause Back to Sleep: Adapting the Doctrine to Support State Renewable Portfolio Standards*, 43 ENVTL. L. 295, 337 (2013); Alexandra Klass & Elizabeth Henley, *Energy Policy, Extraterritoriality, and the Dormant Commerce Clause*, SAN. DIEGO J. OF CLIMATE & ENERGY L. (forthcoming 2014)

Climate change, after all, is a "super wicked" problem, and GHG emissions are ubiquitous.[13] Mitigating the threat of climate change requires aggressive measures, including the comprehensive regulation of energy production, distribution, and use.[14] If states are to be effective in trying to address climate change, advocates argue that incidental burdens on interstate commerce are inevitable.[15] Yet, given that climate change is a *global* problem, no state on its own has the ability to have any meaningful effect on projected changes to the earth's climate.[16] Even if every state in the nation were to adopt these sorts of policies, projections of future warming due to anthropogenic emissions of GHGs would remain largely unchanged.[17] Nevertheless, should every state adopt such policies, the nation's energy markets could become quite balkanized.[18] Whether states can proceed on their current course will be determined by courts' willingness to enforce traditional constitutional constraints on discriminatory and extraterritorial state legislation.

Part I of this Article briefly surveys the state role in energy regulation. Part II outlines the constitutional constraints that may

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[hereinafter Klass & Henley, *Energy Policy*]; Michael Barsa & David A. Dana, *A Climate Change Lens on the Dormant Commerce Clause, Lifecycle GHG Taxes, and In-State RPS Requirements*, 5 SAN DIEGO J. CLIMATE & ENERGY L. 69 (2014).

13. *See* Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1159–61 (2009) (describing climate change as a "super wicked" problem).

14. *See, e.g.*, Ann E. Carlson, *Iterative Federalism and Climate Change*, 103 NW. U. L. REV. 1097, 1097 (2009).

15. Gross, *supra* note 10. (finding that "[s]tate-level approaches to regulating GHGs, while laudable, will inevitably impact interstate markets, thereby implicating the constitutional limits on state action imposed by the Commerce Clause.").

16. *See* Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. PA. L. REV. 1961, 1963 (2007).

17. On the enormity of the challenge of mitigating global climate change through emission reductions, *see* Jonathan H. Adler, *Eyes on a Climate Prize: Rewarding Energy Innovation to Achieve Climate Stabilization*, 35 HARV. ENVTL. L. REV. 1, 5–12 (2011). *See also* Robert D. Atkinson & Darrene Hackler, *Ten Myths of Addressing Global Warming and the Green Economy*, INFO. TECH. & INNOVATION FOUND. 1 (June 2010), www.itif.org/files/2010-green-economy-myths.pdf, archived at http://perma.cc/Z2VM-S2X4 (noting that "the magnitude of change needed is much larger than many realize[;] many conventional solutions simply won't achieve the global scale needed.").

18. For an in-depth look as to how regulation balkanized gasoline markets and the related consequences, *see generally* Andrew P. Morriss & Nathaniel Stewart, *Market Fragmenting Regulation: Why Gasoline Costs so Much (and Why it's Going to Cost Even More)*, 72 BROOK. L. REV. 939 (2007).

limit such regulation by states, including the Dormant Commerce Clause. Part III discusses how courts have applied the Dormant Commerce Clause to energy-related regulation by states. Part IV looks at contemporary state policies that may raise particular Dormant Commerce Clause concerns due to privileging in-state interests and discriminating against out-of-state energy producers. In the end, the extent to which the Dormant Commerce Clause constrains state energy and climate policies will depend upon the level of enthusiasm the Supreme Court retains for enforcing traditional norms against anti-competitive state action.

I. STATE-LEVEL ENERGY POLICIES

Both the federal and state governments play a role in the regulation of energy exploration, production, and distribution, along with the consequential environmental effects. In environmental policy more broadly, there is active debate on the optimal distribution of regulatory authority between the federal and state governments.[19] Federal authority to regulate interstate commerce necessarily extends to the regulation of energy markets, and is understood to include federal authority to regulate the environmental consequences of commercial and industrial activity,

19. *See, e.g.*, James L. Huffman, *Making Environmental Regulation More Adaptive Through Decentralization: The Case for Subsidiarity*, 52 U. KAN. L. REV. 1377 (2005); Jonathan H. Adler, *Jurisdictional Mismatch in Environmental Federalism*, 14 N.Y.U. ENVTL L.J. 130 (2005) [hereinafter Adler, *Mismatch*]; DAVID SCHOENBROD, SAVING OUR ENVIRONMENT FROM WASHINGTON (2005); Bradley C. Karkkainen, *Collaborative Ecosystem Governance: Scale, Complexity, and Dynamism*, 21 VA. ENVTL. L.J. 189, 206 (2002); Wallace E. Oates, *A Reconsideration of Environmental Federalism*, *in* RECENT ADVANCES IN ENVIRONMENTAL ECONOMICS 22 (John A. List & Aart de Zeeuw eds., 2002); Kirsten Engel & Susan Rose-Ackerman, *Environmental Federalism in the United States: The Risks of Devolution*, *in* REGULATORY COMPETITION AND ECONOMIC INTEGRATION: COMPARATIVE PERSPECTIVES 137 (Daniel C. Esty & Damien Geradin eds., 2001); Richard L. Revesz, *Federalism and Environmental Regulation: A Public Choice Analysis*, 115 HARV. L. REV. 553 (2001); Rena I. Steinzor, *Devolution and the Public Health*, 24 HARV. ENVTL. L. REV. 351 (2000); Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570 (1996); HENRY BUTLER & JONATHAN R. MACEY, USING FEDERALISM TO IMPROVE ENVIRONMENTAL POLICY (1996); Peter P. Swire, *The Race to Laxity and the Race to Undesirability: Explaining Failures in Competition Among Jurisdictions in Environmental Law*, 14 YALE J. ON REG. 67 (1996). For a survey of the empirical literature on jurisdictional choice in environmental law, *see* Daniel L. Millimet, *Environmental Federalism: A Survey of the Empirical Literature*, CASE W. RES. L. REV. (forthcoming 2014).

including energy exploration and consumption.[20] Energy development and production is heavily regulated by a suite of federal environmental laws, including, among others, the CAA,[21] the Clean Water Act (CWA),[22] and the Resource Conservation and Recovery Act.[23] State and local governments, nonetheless, retain their historic authority over most land use and are directly involved in the regulation of utilities.[24]

Whereas most early environmental protection measures were enacted at the state or local level, the federal government has been actively involved in the regulation of energy since the early part of the 20th century. In 1920, Congress enacted the Federal Water Power Act[25] (FWPA), which later became Part I of the Federal Power Act (FPA).[26] The FWPA created the Federal Power Commission (FPC) and provided for the licensing of hydroelectric projects on navigable waters.[27] Fifteen years later, Congress enacted Part II of the FPA, authorizing the FPC to regulate wholesale electricity rates,[28] followed shortly thereafter by the Natural Gas Act, authorizing the FPC to regulate rates for interstate gas pipelines.[29] Over time, the FPC's jurisdiction over interstate energy markets expanded, and the agency was redubbed the Federal Energy Regulatory Commission (FERC) in 1977.[30] Subsequent laws encouraged independent power production and

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20. *See generally* Jonathan H. Adler, *Judicial Federalism and the Future of Federal Environmental Regulation*, 90 IOWA L. REV. 377 (2005) [hereinafter Adler, *Judicial Federalism*].

21. Clean Air Act, Pub. L. No. 91-604, 84 Stat. 1676 (1970) (codified at 42 U.S.C. §§ 7401–7671q (2006 & Supp. 2011)).

22. Clean Water Act, Pub. L. No. 91-224, 84 Stat. 91 (1970) (codified as amended at 33 U.S.C. §§ 1251–1387 (2006 & Supp. V 2011)).

23. Resource Conservation and Recovery Act (RCRA) of 1976, Pub. L. No. 94-580, 90 Stat. 2795 (codified as amended at 42 U.S.C. §§ 6901–6992k (2012)).

24. *See* Fed. Energy Regulatory Comm'n v. Mississippi, 456 U.S. 742, 768 n.30 (1982) ("[R]egulation of land use is perhaps the quintessential state activity.").

25. Federal Water Power Act (FWPA), ch. 285, 41 Stat. 1063 (1920) (codified as amended at 16 U.S.C. §§ 791–823 (2012)).

26. *See* Federal Power Act (FPA), Pub. L. No. 71-412, 46 Stat. 797 (1930) (codified as amended in scattered sections of 16 U.S.C. (2012)).

27. *See id.* (codified as amended at 16 U.S.C. § 792 (2012)) (creating the Federal Power Commission). *See also id.* (codified as amended at 16 U.S.C. §797a (2012)) (providing for congressional authorization of licenses for hydroelectric projects).

28. *See* Federal Power Act, ch. 687, tit. II, 49 Stat. 838 (1935) (codified as amended in scattered sections of 16 U.S.C.).

29. *See* Natural Gas Act, ch. 556, § 1, 52 Stat. 821 (1938) (codified as amended at 15 U.S.C. §§ 717–717w (2012)).

30. *See* 49 U.S.C. § 60502 (2012).

the development of alternative energy resources.[31] In the late 1970s, FERC also began to take steps toward the deregulation of at least some wholesale energy markets.[32]

Although the federal government has a significant regulatory role, much energy regulation occurs at the state level. State agencies are heavily involved in land use issues related to energy extraction and development, as are local governments.[33] State and local agencies oversee the siting of facilities and transmission lines.[34] Even where the federal government has assumed a role in transmission line siting, state agencies retain a prominent role.[35] Utility rates and practices are also governed by Public Utility Commissions (PUCs) in each state.[36]

In recent years, states have become particularly active in the regulation of energy for environmental purposes.[37] These measures range from regulating emissions to imposing fees or charges to encourage the development of less-polluting forms of energy.[38] Some state PUCs now require consideration of environmental costs in the evaluation of new energy projects, and a majority of states

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31. *See, e.g.*, Public Utility Regulatory Policies Act (PURPA), Pub. L. No. 95-617, 92 Stat. 3117 (current version at 16 U.S.C. §§ 2602-3211 (2005)). *See also* Richard J. Pierce, Jr., *Completing the Process of Restructuring the Electricity Market,* 40 WAKE FOREST L. REV. 451, 469 (2005).

32. For example, the Natural Gas Policy Act of 1978, enacted as part of the National Energy Act of 1978, authorized the partial deregulation of natural gas prices. *See* 15 U.S.C. § 3301 (2012).

33. In many states, there are legal and policy disputes over the proper allocation of regulatory authority between the state and local governments. *See generally* John R. Nolon & Steven E. Gavin, *Hydrofracking: State Preemption, Local Power, and Cooperative Governance*, 63 CASE W. RES. L. REV. 995 (2013).

34. For an examination of the divide between federal and state governments over transmission siting and its implications for renewable energy, *see* Alexandra B. Klass and Elizabeth J. Wilson, *Interstate Transmission Challenges for Renewable Energy: A Federalism Mismatch*, 65 VAND. L. REV. 1801, 1827–31 (2012).

35. *See* Piedmont Envtl. Council v. FERC 558 F.3d 304 (4th Cir. 2009). Note that there is less of a local role in the siting of pipelines.

36. Every state has a PUC. *See Regulatory Commissions*, NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, http://www.naruc.org/Commissions/CommissionsList.cfm, archived at http://perma.cc/VL8X-CWQG (last visited Oct. 8, 2014).

37. *See* Nathan E. Endrud, Note, *State Renewable Portfolio Standards: Their Continued Validity and Relevance in Light of the Dormant Commerce Clause, the Supremacy Clause, and Possible Federal Legislation*, 45 HARV. J. ON LEGIS. 259, 259–60 (2008).

38. *Id.* at 260.

have renewable portfolio standards.[39] This degree of state regulatory activism is not surprising given that state governments have often enacted environmental regulations in advance of the federal government.[40]

Many of the newer measures adopted by state governments purport to address the threat of global climate change by reducing the carbon intensity of energy produced or used within the state, or by otherwise reducing GHG emissions.[41] These measures are prompted, in part, by the federal government's failure to adopt a comprehensive climate policy.[42] State-level action on climate change is unlikely, in itself, to have much impact on atmospheric concentrations of GHGs or projected rates of future warming.[43] Nonetheless, the level of state activity is significant and could raise important constitutional questions about the scope of state regulatory authority.

One feature—or bug—of some state policies is their attempt to address the out-of-state effects of in-state energy consumption. Some states that have adopted renewable portfolio standards, for example, have sought to privilege in-state renewable power producers so as to ensure that at least some portion of the economic benefits from such mandates are captured within the state.[44] For example, in its low-carbon fuel standards, California has sought to adopt a "lifecycle" approach to energy regulation that accounts for all of the environmental effects of fuel production, including the extraction and processing of the relevant energy source wherever such activities occur.[45] California and other states

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39. *See id.* (referring to some states that use "environmental externality values" in evaluating energy projects). *See also id.* at 260 n.10 (noting that a majority of states already have renewable portfolio standards).

40. *See, e.g.*, Elliott et al., *supra* note 8, at 316; Jonathan H. Adler, *The Fable of Federal Environmental Regulation: Reconsidering the Federal Role in Environmental Protection*, 55 CASE W. RES. L. REV. 93, 96–100 (2004).

41. *See* Thomas D. Peterson et al., *Developing a Comprehensive Approach to Climate Change Policy in the United States that Fully Integrates Levels of Government and Economic Sectors*, 26 VA. ENVTL. L.J. 227, 239 (2008) (summarizing state climate initiatives).

42. *See, e.g.*, Engel & Orbach, *supra* note 6. Some states have also resorted to litigation in their efforts to spur greater federal action on climate change. *See, e.g.*, Massachusetts v. EPA, 549 U.S. 497 (2007); Am. Elec. Power Co., Inc. v. Connecticut, 131 S. Ct. 2527 (2011).

43. Wiener, *supra* note 16, at 1963 (noting it is "well understood that these state-level efforts, even those of large states such as California, will have little impact on global emissions and hence little impact on global climate.").

44. *See infra* Parts III and IV.

45. The purpose of California's low carbon fuel standard is to reduce GHG emissions by reducing "full fuel cycle, carbon intensity" of transportation fuel used in California. CAL. CODE REGS. tit. 17, § 95480 (2014). California defines

have also sought to prevent states from gaining a competitive advantage due to their regulatory measures.[46]

Measures addressing the effects of out-of-state energy production are justified by the need to address carbon "leakage."[47] Specifically, there is a concern that imposing stringent emission controls or carbon limits in one jurisdiction will have "the frustrating and perverse effect" of "reducing carbon in one place" only to make "it pop up somewhere else."[48] In the energy context, the fear is that imposing costly regulatory measures in one jurisdiction will induce companies to shift their operations to, or source energy and other factors of production from, other, less-regulated jurisdictions. If electric utilities in one state are required to reduce their GHG emissions or derive a larger share of the electricity they sell from more costly sources, they may be at a competitive disadvantage against utilities in other jurisdictions. Regulations limiting the carbon intensity of in-state fuel production may induce consumers to obtain fuels from out-of-state producers. Due to the resulting leakage, any benefits resulting from a state's efforts to reduce emissions within its own borders may be offset by an increase in emissions elsewhere. Relatedly, some fear that state policies to encourage the development of renewable energy will drive such development to other jurisdictions, potentially leaving in-state consumers with higher energy bills without the offsetting economic benefits of in-state development.[49]

California's climate efforts are particularly ambitious. In 2006, California enacted the Global Warming Solutions Act (AB 32), obligating the California Air Resources Board (CARB) to impose, among other things, a statewide cap-and-trade regime for GHG emissions and to adopt low-carbon fuel standards for all gasoline sold within the state.[50] Both components of AB 32 have been the

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"carbon intensity" to include full "lifecycle" GHG emissions. CAL. CODE REGS. tit. 17, § 95481(a)(16) (2014).

46. *See infra* Parts III and IV.

47. James W. Coleman, *Unilateral Climate Regulation*, 38 HARV. ENVTL. L. REV. 87, 106–14 (2014).

48. Farber, *supra* note 1, at 37.

49. David E. Adelman & Kirsten H. Engel, *Reorienting State Climate Change Policies to Induce Technological Change*, 50 ARIZ. L. REV. 835, 843 (2008) (summarizing the economic risks of leakage).

50. *See* Assemb. B. 32, 2005-2006 Leg., Reg. Sess. (Cal. 2006) (codified at CAL. HEALTH & SAFETY CODE §§ 38500-38599 (2006)).

subject of significant controversy and litigation, including constitutional challenges.[51]

Although California has a history of ambitious environmental regulation, there are reasons to doubt that states will adopt optimal environmental policies to address cross-boundary environmental problems, particularly climate change.[52] Climate change is anything but a local or regional problem. To the contrary, global climate change is just that—a *global* environmental concern.[53] The benefits from state or local policies that mitigate the risks posed by climate change are dispersed globally and cannot be captured within the enacting jurisdiction. State or local jurisdictions wishing to combat global climate change are confronted with an archetypal "commons" problem.[54] The global climate is a vast global commons to which everyone contributes GHG emissions. Emissions anywhere on the globe contribute to the increase in atmospheric concentrations of GHGs and the eventual warming of the atmosphere. Any state that reduces emissions within its jurisdiction will bear the cost of such reductions, but it will not reap equivalent benefits. Whatever benefits accrue from GHG emission controls accrue globally.[55] No state, acting alone, is capable of adopting emission controls capable of making a dent in global emissions, let alone global atmospheric concentrations of GHGs.[56] Even working together, states are not capable of reducing projected climate change and its anticipated effects to any meaningful degree.[57] As a consequence, states have every

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51. *See generally* Thomas Alcorn, *The Constitutionality of California's Cap-and-Trade Program and Recommendations for Design of Future State Programs*, 3 MICH. J. ENVTL. & ADMIN. L. 87 (2013); Peter M. Morrissette & Robert D. Infelise, *A Review of Legal Challenges to California's Greenhouse Gas Cap-and-Trade Regulations*, 33 WESTLAW J. ENVTL. 18 (2013).

52. *See* Thomas W. Merrill, *Golden Rules for Transboundary Pollution*, 46 DUKE L.J. 931, 932 (1997) ("Given the inherent difficulties in regulation by any single state, transboundary pollution would seem to present a clear case for shifting regulatory authority from local to more centralized levels of governance."). *See generally* Richard L. Revesz, *Federalism and Interstate Environmental Externalities*, 144 U. PA. L. REV. 2341 (1996); Adler, *Mismatch supra* note 19.

53. *See* NAT'L RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME KEY QUESTIONS 10–11 (2001).

54. *See generally* Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243 (1968) (describing the commons problem).

55. Wiener, *supra* note 16, at 1965 ("[L]ocal abatement actions pose local costs, yet deliver essentially no local climate benefits.").

56. *Id.* at 1966 ("[N]o state could effectively control its own ambient level of carbon dioxide or other GHGs, because that ambient level is determined by the worldwide concentration of GHGs in the atmosphere.").

57. *Id.* at 1963.

incentive to "free ride" on the efforts of their neighbors rather than suffer costs that will yield few internal benefits or to use climate concerns as a cover for special-interest legislation. However capable states may be at addressing more localized environmental concerns, their comparative advantage may end at the border. There is a mismatch between a state's capability to comprehend and control local matters, on the one hand, and the scale of some transboundary concerns, climate change in particular, on the other.[58]

The mismatch between the problem of climate change and available solutions may explain why some states have adopted climate-related policies that appear to privilege in-state energy producers and, where possible, externalize compliance costs to other jurisdictions. States are more likely to adopt meaningful emission reductions if they can externalize the costs of such measures to other jurisdictions and capture the pecuniary benefits. Such regional rent-seeking has been well documented in environmental law[59] and can occur specifically in the climate context.[60] Consider the various public nuisance lawsuits filed by state attorney generals against out-of-state firms.[61] State officials who file such suits, get the political benefits of appearing to take action against climate change without having to bear the costs of imposing economic burdens on in-state firms. More broadly, state-

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58. *See generally* Jonathan H. Adler, *Hothouse Flowers: The Vices and Virtues of Climate Federalism*, 17 TEMP. POL. & CIV. RTS. L. REV. 443 (2008) [hereinafter Adler, *Hothouse Flowers*].

59. *See* Jonathan H. Adler, *Clean Politics, Dirty Profits: Rent-Seeking Behind the Green Curtain*, *in* POLITICAL ENVIRONMENTALISM: GOING BEHIND THE GREEN CURTAIN 1, 6–9 (Terry L. Anderson ed. 2000) (summarizing notable examples of regional rent-seeking in environmental law). For other examples of rent-seeking in environmental law, *see* Todd J. Zywicki, *Environmental Externalities and Political Externalities: The Political Economy of Environmental Regulation and Reform*, 73 TUL. L. REV. 845, 898 (1999); ENVIRONMENTAL POLITICS: PUBLIC COSTS, PRIVATE REWARDS (Michael S. Greve & Fred L. Smith, Jr. eds. 1992).

60. *See* Bruce Yandle & Stuart Buck, *Bootleggers, Baptists, and the Global Warming Battle*, 26 HARV. ENVTL. L. REV. 177, 207 (2002). Indeed, the "most ambitious energy and climate-change legislation ever introduced in Congress," the American Clean Energy and Security Act (ACES), perhaps better known as the Waxman-Markey Bill, was "fat with compromises, carve-outs, concessions and out-and-out gifts intended to win the votes of wavering lawmakers and the support of powerful industries." John M. Broder, *With Something for Everyone, Climate Bill Passed*, N.Y. TIMES, July 1, 2009, at A20.

61. *See* Connecticut v. Am. Elec. Power Co., Inc., 406 F.Supp.2d 265 (S.D.N.Y. 2005), *vacated*, 582 F.3d 309, *rev'd*, 131 S.Ct. 813; California v. Gen. Motors Corp., No. C06-05755 MJJ, 2007 WL 2726871 (N.D. Cal. Sept. 17, 2007).

level climate policies that benefit in-state firms and constituencies may be easier to enact than those that produce more dispersed benefits.

II. CONSTITUTIONAL CONSTRAINTS

The United States Constitution constrains the sorts of energy and environmental policies that may be adopted by both the federal and state governments.[62] The constitutional system of "dual sovereignty" recognizes the "separate and independent autonomy" of the states.[63] At the same time, this system constrains what states may do by placing express and implied structural limits on state authority[64] and on the interjurisdictional competition that the Constitution's structure creates.

A. Limited and Enumerated Federal Powers

A core component of the constitutional structure is the idea that the powers of the federal government are limited to those enumerated in the Constitution itself.[65] The bulk of these powers are enumerated in Article I, section 8.[66] These include the powers to borrow and coin money, establish uniform laws governing naturalization and bankruptcy, and—most significantly for the regulation of energy and environmental concerns—the power to regulate commerce "among the several States."[67] Article I, section 8 also authorizes Congress to "lay and collect Taxes, Duties, Imposts, and Excises to pay the Debts and provide for the common

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62. *See* RICHARD J. LAZARUS, THE MAKING OF ENVIRONMENTAL LAW 38 (2004) (noting the Constitution's division of authority "creates obstacles to states' enacting laws that are more protective of the environment").

63. *See* Gregory v. Ashcroft, 501 U.S. 452, 457 (1991).

64. *See* Erwin Chemerinsky, et al., *California, Climate Change and the Constitution*, 37 ENVTL. L. REP. 10653, 10653 (2007) ("[T]he U.S. Constitution restricts states' power to address certain problems and particularly limits the strategies states can employ to further the interests of their citizens.").

65. *See* NFIB v. Sebelius, 132 S. Ct. 2566, 2577 (2012) ("The federal government 'is acknowledged by all to be one of enumerated powers.'") (citation omitted) (quoting McCulloch v. Maryland, 17 U.S. (4 Wheat.) 316, 405 (1819)). This is not a new proposition. *See, e.g.*, Marbury v. Madison, 5 U.S. (1 Cranch) 137, 176 (1803) ("The powers of the legislature are defined and limited; and that those limits may not be mistake, or forgotten, the constitution is written."); Gibbons v. Ogden, 22 U.S. (9 Wheat) 1, 195 ("The enumeration presupposes something not enumerated.").

66. Other powers may be found in the enforcement clauses of the Civil War Amendments, among other places.

67. U.S. CONST., art. I, §8.

Defence and general Welfare of the United States."[68] As interpreted by the courts, this empowers Congress to fund those projects and programs that Congress believes will advance the "general Welfare" of the United States.[69] Further, the Constitution also vests Congress with the power to "make all Laws which shall be necessary and proper for carrying into execution" the other powers enumerated in the Constitution.[70]

Taken together, the powers enumerated in Article I, section 8 grant Congress ample authority to address energy and environmental concerns. The aforementioned commerce power in particular is quite expansive. Under current doctrine, the commerce power (as supplemented by the Necessary and Proper Clause) enables Congress to reach nearly all manners of economic activity.[71] As interpreted by the courts, this authority is sufficient to sustain most federal environmental regulations on the books today.[72] Yet, this authority is not without limits. As the Supreme Court recently reaffirmed in *National Federation of Independent Business v. Sebelius*, "the National Government possesses only limited powers; the States and the people retain the remainder."[73] Although many federal environmental statutes authorize some degree of land use regulation, the Supreme Court has been reluctant to authorize expansive federal regulation in this area. As the Supreme Court noted in *FERC v. Mississippi*, the "regulation of land use is perhaps the quintessential state activity."[74] It will not be subsumed by federal legislation lightly.[75]

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68. U.S. CONST. art. I, § 8. cl. 1.

69. *See, e.g.*, United States v. Butler, 297 U.S. 1, 64–65 (1936).

70. U.S. CONST. art. I, § 8. cl. 18.

71. Specifically, under *United States v. Lopez*, Congress has the authority to regulate "the use of the channels of interstate commerce," "the instrumentalities of interstate commerce," including persons and things in such commerce, and "those activities that substantially affect interstate commerce." 514 U.S. 549, 558–59 (1995). As applied in *Lopez* and subsequent cases, Congress may regulate even rather trivial instances of intra-state economic activity as part of a broader regulatory scheme governing economic activity. *See, e.g.*, Gonzales v. Raich, 545 U.S. 1 (2005).

72. *See* Adler, *Judicial Federalism*, *supra* note 20, at 404–21.

73. 132 S. Ct. 2566, 2577 (2012).

74. 456 U.S. 742, 768 n.30 (1982).

75. Solid Waste Agency of N. Cook Cnty. v. U.S. Army Corps of Engineers, 531 U.S. 159, 174 (2001); Rapanos v. United States, 547 U.S. 715, 737–38 (2006); Piedmont Envtl. Council v. FERC 558 F.3d 304, 310–12 (4th Cir. 2009).

B. Constraints on State Power

The primary constitutional limits on federal power derive from the delegation of limited and enumerated powers.[76] The federal government only has those powers that are delegated to it. The states, on the other hand, have all those powers not delegated to the federal government or constrained by other constitutional provisions.[77] Put another way, whereas the federal government's powers are limited and enumerated, the states possess a residual and plenary police power.[78]

1. *Supremacy Clause*

The federal government's powers are limited, but they are also supreme. Article VI of the Constitution provides that the federal Constitution and "the Laws of the United States which shall be made in pursuance thereof" are "the supreme law of the land."[79] Thus, where federal and state laws conflict, federal law prevails.

A consequence of the Supremacy Clause is that the federal government retains the authority to preempt state regulation of those matters within the reach of federal regulatory authority. Preemption may be express or implied.[80] Express preemption occurs when Congress enacts legislation that explicitly overrides or bars the application of state law.[81] Implied preemption, on the

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76. Both the federal and state governments are constrained by the Bill of Rights and the guarantees of the Civil War Amendments as well. With some exceptions, these limitations do not impose meaningful constraints on energy and environmental regulation. *See* Jonathan H. Adler, *Judicial Federalism and the Future of Federal Environmental Regulation*, 90 IOWA L. REV. 377, 421-22 (2005) (discussing Section 5 of the Fourteenth Amendment).

77. U.S. CONST. amend. X.

78. *See, e.g.*, United States v. Lopez, 514 U.S. 549, 566 (1995) (stating that the Constitution "withhold[s] from Congress a plenary police power that would authorize enactment of every type of legislation").

79. U.S. CONST. art. VI:

> This Constitution, and the Laws of the United States which shall be made in pursuance thereof; and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land; and the judges in every state shall be bound thereby, anything in the constitution or laws of any state to the contrary notwithstanding.

80. *See* Gade v. Nat'l Solid Wastes Mgmt. Ass'n, 505 U.S. 96, 98 (1992) ("Pre-emption may be either expressed or implied, and 'is compelled whether Congress' command is explicitly stated in the statute's language or implicitly contained in its structure and purpose.'") (citations omitted) (quoting Jones v. Rath Packing Co., 430 U.S. 519, 525 (1977)).

81. *See* CSX Transp., Inc. v. Easterwood, 507 U.S. 658, 664 (1993).

other hand, occurs when there is some degree of tension or incompatibility between federal and state law. This may occur when a federal statute covers an entire field of law so pervasively that there is no room for additional state or local regulation—so-called "field preemption"[82]—or when it is costly, if not impossible, for a regulated entity to comply with both federal law and state law simultaneously—so-called "conflict preemption."[83] Courts are generally reluctant to find preemption without either an express claim of preemption by Congress, or some other indication of implied preemption, such as a direct conflict between federal and state law.[84]

2. Dormant Commerce Clause

Congress retains the authority to use its enumerated powers to preempt or limit state laws that conflict with or are otherwise contrary to federal objectives. Yet even when Congress fails to act, state laws will be held invalid if they impermissibly burden interstate commerce. The same Commerce Clause that authorizes Congress to regulate commerce "among the several states" has also been interpreted by the courts to constrain state regulation that unduly interferes with such commerce.[85]

This "negative" aspect of the Commerce Clause—the so-called "Dormant Commerce Clause"—is "driven by a concern about 'economic protectionism—that is, regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors.'"[86] As the Supreme Court explained in *Granholm v. Heald*, a "central concern" motivating the Constitutional Convention was the proliferation of state-level barriers impeding the flow of commerce across state lines.[87] The Framers realized that "in order to succeed the new Union would have to avoid the tendencies toward economic Balkanization that had plagued relations among the Colonies and later among the States under the

82. *See* Arizona v. United States, 132 S. Ct. 2492, 2502 (2012).

83. *See* Sprietsma v. Mercury Marine, 537 U.S. 51, 64 (2002).

84. Cipollone v. Liggett Grp., Inc., 505 U.S. 504, 533 (1992) (Blackmun, J., concurring in part, concurring in the judgment in part, and dissenting in part); Camps Newfound/Owatonna, Inc. v. Town of Harrison, 520 U.S. 564, 616 (1997) (Thomas, J., dissenting).

85. *See, e.g.*, Dep't of Revenue of Ky. v. Davis, 553 U.S. 328, 337 (2008) ("[A]lthough its terms do not expressly restrain 'the several states' in any way, we have sensed a negative implication in the provision since the early days.").

86. *Id.* at 337–38 (quoting New Energy Co. of Ind. v. Limbach, 486 U.S. 269, 273–74 (1988)).

87. 544 U.S. 460, 472 (2005).

Articles of Confederation."[88] Thus, the Supreme Court's Dormant Commerce Clause doctrine has evolved to "effectuate[] the Framers' purpose to prevent a State from retreating into economic isolation."[89] Current Dormant Commerce Clause doctrine is also particularly suspicious of extraterritorial legislation, which is understood as laws that attempt to "control conduct beyond the boundary of a state."[90] As with the rule against discriminatory state legislation, this rule operates to limit the potential for "conflicting legislation."[91]

Under current doctrine, state laws that discriminate against out-of-state actors are subject to a form of strict scrutiny and are "virtually *per se* invalid."[92] States cannot discriminate against out-of-state actors or articles of commerce unless there is a "reason, apart from their origin, to treat them differently."[93] A discriminatory state law, such as a law that imposes higher taxes or regulatory burdens on goods produced out-of-state, will only be upheld if the state can show that the challenged provision "advances a legitimate local purpose that cannot be adequately served by reasonable nondiscriminatory alternatives."[94] As the Court has explained, a state may not adopt a discriminatory state law "if reasonable nondiscriminatory alternatives, adequate to conserve legitimate local interests, are available."[95]

Non-discriminatory state laws may be invalidated under the Dormant Commerce Clause as well. Under the *Pike* test, named for *Pike v. Bruce Church, Inc.*, it is unconstitutional for a state to enact a law that imposes a burden on interstate commerce that is "excessive in relation to the putative local benefits."[96] For instance, the Supreme Court has invalidated state laws that unnecessarily burdened commerce through the state, such as state laws requiring trucks on state highways to be shorter than those allowed in neighboring states[97] or those requiring a specific type of

88. *Id.*
89. Fulton Corp. v. Faulkner, 516 U.S. 325, 330 (1996) (quoting Okla. Tax Comm'n v. Jefferson Lines, Inc. 514 U.S. 175, 180 (1995)).
90. *See* Healy v. Beer Inst., 491 U.S. 324, 336–37 (1989).
91. *See* W. Union Tel. Co. v. Pendleton, 122 U.S. 347, 358 (1887).
92. *See* Or. Waste Sys., Inc. v. Or. Dep't. of Envtl. Quality, 511 U.S. 93, 99 (1994).
93. City of Philadelphia v. New Jersey, 437 U.S. 617, 626–27 (1978).
94. *Or. Waste Sys.*, 511 U.S. at 101.
95. Dean Milk Co. v. Madison, 340 U.S. 349, 354 (1951).
96. 397 U.S. 137, 142 (1970).
97. *See* Kassel v. Consol. Freightways Corp. of Del., 450 U.S. 662, 665 (1981). *See also* S. Pac. Co. v. Arizona, 325 U.S. 761, 763 (1945) (invalidating a state limit on train length within the state).

mudguard.[98] Both the prohibition of discrimination and the *Pike* test operate as default rules that may be altered by Congress through the exercise of its power to regulate commerce.[99]

In recognition of the distinction between "[s]tates as market participants and [s]tates as market regulators," the Court has created a "market-participant" exception to the Dormant Commerce Clause.[100] Under this exception, state entities are permitted to participate in markets, buying and selling goods and services or providing public goods, in a discriminatory fashion.[101] As the Court has explained, "Nothing in the purposes animating the Commerce Clause prohibits a State . . . from participating in the market and exercising the right to favor its own citizens over others."[102] For instance, a state agency may adopt purchasing policies that favor in-state businesses or provide services on preferential terms to in-state residents.

For much of the past two centuries, the Dormant Commerce Clause has been a powerful check on state regulations that threaten to burden or constrain interstate commerce.[103] The Supreme Court was particularly aggressive in its enforcement of the Commerce Clause's "negative" aspects during the Burger and early Rehnquist Courts.[104] In recent years, however, some Justices on the Supreme Court have expressed reservations about current Dormant Commerce Clause doctrine,[105] and the Court has taken a permissive view of state legislation designed to "protect governmental operations from out-of-state competition."[106] Both Justices Thomas and Scalia have expressed concerns about the use of an atextual doctrine to invalidate state laws.[107] Concluding the

98. *See* Bibb v. Navajo Freight Lines, Inc., 359 U.S 520 (1959).

99. *See, e.g.*, Prudential Ins. Co. v. Benjamin, 328 U.S. 408 (1946) (rejecting, as against a Dormant Commerce Clause challenge, discriminatory state insurance regulations authorized by the McCarran-Ferguson Act).

100. *See* Reeves, Inc. v. Stake, 447 U.S. 429, 436 (1980). *See also* Hughes v. Alexandra Scrap Corp., 426 U.S. 794 (1976).

101. *See* United Haulers Ass'n, Inc. v. Oneida-Herkimer Solid Waste Mgmt. Auth., 550 U.S. 330, 343 (2007).

102. *Hughes*, 426 U.S. at 810 (footnote omitted).

103. *See* Norman R. Williams & Brannon P. Denning, *The "New Protectionism" and the American Common Market*, 85 NOTRE DAME L. REV. 247, 248–49 (2013).

104. *See* Christine A. Klein, *The Environmental Commerce Clause*, 27 HARV. ENVTL. L. REV. 1, 43–44 (2003) [hereinafter Klein, *Environmental Commerce Clause*].

105. *See* Williams & Denning, *supra* note 103, at 292.

106. *See id.* at 250.

107. *See* W. Lynn Creamery, Inc. v. Healy, 512 U.S. 186, 209 (1994) (Scalia, J., concurring); United Haulers Assn, Inc. v. Oneida-Harkimer Solid Waste Mgmt. Auth., *550 U.S. 330, 349 (2007)* (Thomas, J., concurring in the judgment).

doctrine "has no basis in the Constitution and has proved unworkable in practice," Justice Thomas would "discard" it entirely.[108] Justice Scalia, on the other hand, adopts a more moderate view, agreeing to apply the doctrine "only when *stare decisis* compels" him to do so.[109] Both of these Justices have also expressed concern about the *Pike* test, as it calls for the balancing of incommensurable values, a task to which neither believes courts are well suited.[110] They may not be alone on the Court, as a majority of Justices has not struck down a state law on *Pike* grounds in over two decades, leading some commentators to predict the end of the *Pike* test.[111] At the same time, the Court has appeared to back away from aggressive enforcement of the rule against extraterritorial legislation.[112] If so, the Dormant Commerce Clause, in the future, may pose less of a threat to state energy regulation than it has in the past.

III. DORMANT COMMERCE, ENERGY, AND ENVIRONMENTAL PROTECTION

Environmental laws do not get a pass under the Dormant Commerce Clause. The bar on discriminatory legislation applies unless, and until, such state measures are authorized by Congress. The Supreme Court has been quite explicit on this point. In *City of Philadelphia v. New Jersey*, in which the Garden State sought to defend a prohibition on the import of out-of-state waste, the Court stressed that "all objects of interstate trade merit Commerce Clause protection."[113] This is as true of "goods" (widgets) as it is of "bads" (waste).[114] Environmental claims can be used to mask base

108. *United Haulers*, 550 U.S. at 349 (Thomas, J., concurring in the judgment).

109. Dep't of Revenue of Ky. v. Davis, 553 U.S. 328, 359 (2008) (Scalia, J., concurring in part).

110. *See* Camps Newfound/Owatonna, Inc. v. Town of Harrison, Me., 520 U.S. 564, 619 (1997) (Thomas, J., dissenting). *See also United Haulers*, 550 U.S. at 348–49 (Scalia, J., concurring).

111. *See* Williams & Denning, *supra* note 103, at 304.

112. Brannon P. Denning, *Extraterritoriality and the Dormant Commerce Clause: A Doctrinal Post-Mortem*, 73 LA. L. REV. 979, 979 (2013).

113. 437 U.S. 617, 622 (1978).

114. *See* Kirsten H. Engel, *The Dormant Commerce Clause threat to Market-based Environmental Regulation: The Case of Electricity Deregulation*, 26 ECOL. L.Q. 243, 244–45 (1999) [hereinafter Engel, *Electricity Deregulation*] ("[T]he principle against protectionism in interstate trade applies to all articles traded in interstate commerce, including those related to the environment."). *See also* Jonathan H. Adler, *Waste & the Dormant Commerce Clause – A Reply* (response to Richard Epstein), 3 GREEN BAG 2D 353, 354 (2000).

economic protectionism.[115] Yet even if environmental preservation were the central purpose of a challenged state law, the Court has explained, "that would not be sufficient to uphold a discriminatory regulation."[116]

Since 1978, when the Court struck down New Jersey's ban on the importation of out-of-state waste,[117] the Court has rigorously applied the Dormant Commerce Clause bar against discriminatory state legislation to environmental measures whether the laws at issue concerned water, waste, or something else. Indeed, between 1978 and 2000, the Court invalidated every state law defended on environmental protection grounds, save one[118]—a Maine law prohibiting the importation of out-of-state baitfish.[119] Although discriminatory, Maine's law survived because the asserted state interest—preventing the introduction of "parasites and nonnative species"[120] that could threaten local fisheries—could not be readily addressed through a less discriminatory measure.[121] Other environmental concerns, such as the potential harms from waste disposal or energy production, are readily addressed through the direct regulation of such harms, such as through emission controls and performance standards.[122] Such concerns have not been deemed sufficient to justify discriminatory regulation.[123]

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115. *See* New Energy Co. of Ind. v. Limbach, 486 U.S. 269, 279 (1988) (describing that the legitimate purpose of protecting public health as "merely an occasional and accidental effect" of the law's main purpose: economic protectionism).

116. W. Lynn Creamery, Inc. v. Healy, 512 U.S. 186, 204 (1994).

117. *See* City of Philadelphia v. New Jersey, 437 U.S. 617, 629 (1978).

118. Klein, *Environmental Commerce Clause*, *supra* note 104, at 44 (noting that "[w]ith only one exception, the Court has invalidated every state law protecting water or land resources that it has considered between 1978 and the end of the twentieth century") (citing Maine v. Taylor, 477 U.S. 131 (1986)). While all of these laws may have been defended on environmental protection grounds, it is not clear whether they all served to enhance environmental protection. In *C & A Carbone, Inc. v. Town of Clarkstown*, for instance, the Supreme Court struck down a local solid waste flow control ordinance. 511 U.S. 383, 384 (1994). This decision may have restricted local control over solid waste, but most major environmental groups also opposed legislative efforts in Congress to exempt such statutes from Dormant Commerce Clause scrutiny. *See* Jonathan H. Adler, *The Failure of Flow Control*, 18 REG. 11, 13 (1995).

119. *See* Maine v. Taylor, 477 U.S. 131, 151 (1986).

120. *Id.* at 141.

121. *Id.* at 151–52.

122. *See* New Energy Co. of Ind v. Limbach, 486 U.S. 269, 278 (1988) (finding that "direct subsidization of domestic industry does not ordinarily run afoul [of the DCC's] prohibition . . .").

123. *See generally* Or. Waste Sys., Inc. v. Dep't. Envtl. Quality of Or., 511 U.S. 93 (1994); C & A Carbone, Inc. v. Town of Clarkstown, 511 U.S. 383 (1994). *See also supra* Part II.

The Court's record has led some commentators to suggest "the modern Court has been consistently hostile to environmental regulation."[124] Given the Supreme Court's willingness to uphold environmental laws in other contexts, and its authorization of expansive federal regulation in *Massachusetts v. EPA*,[125] such a charge seems unwarranted.[126] The Court is hostile to discriminatory legislation, whatever the context, and has been unwilling to bend modern Dormant Commerce Clause doctrine just because environmental protection is at stake.

As already noted, the Court has made clear that the Dormant Commerce Clause applies to all manners of goods and services. If the presumptive rule against discriminatory state legislation applies to waste management services, as the Court has repeatedly held, there is no reason it would not apply to energy sources or electricity as well. Indeed, as the Supreme Court held in *FERC v. Mississippi*: "It is difficult to conceive of a more basic element of interstate commerce than electric energy, a product used in virtually every home and every commercial manufacturing facility."[127]

It is not surprising then that the Supreme Court has applied Dormant Commerce Clause doctrine to invalidate state measures restricting interstate commerce in energy supplies. In *New Energy Co. of Indiana v. Limbach*, for example, a unanimous Supreme Court threw out an Ohio policy favoring in-state ethanol

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124. Klein, *Environmental Commerce Clause*, *supra* note 104, at 4. Perhaps ironically, among the Justices most skeptical of the Court's use of the Dormant Commerce Clause to invalidate state regulation is the Justice most often accused of harboring anti-environmental sentiments. *See id.* at 40–41.

125. 549 U.S. 497 (2007).

126. *See* Stephen M. Johnson, *The Roberts Court and the Environment*, 37 B.C. ENVTL. AFF. L. REV. 317, 345 (2010); Jonathan H. Adler, *Business, the Environment, and the Roberts Court: A Preliminary Analysis*, 49 SANTA CLARA L. REV. 943, 967 (2009). *See also* EPA v. EME Homer City Generation, L.P., 134 S. Ct. 1584 (2014); Whitman v. Am. Trucking Ass'ns, 531 U.S. 457 (2001); Gen. Elec. Co. v. Jackson, 610 F.3d 110, 118–19 (D.C. Cir. 2010) *cert. denied*, 131 S. Ct. 2959 (2011). Indeed, specifically with regard to the Endangered Species Act, the Supreme Court has repeatedly declined to review challenges to the Endangered Species Act. *See* Stewart & Jasper Orchards v. Salazar, 638 F.3d 1163 (9th Cir. 2011), *cert. denied*, 132 S. Ct. 498 (2011); Ala.-Tombigbee Rivers Coal. v. Kempthorne, 477 F.3d 1250 (11th Cir. 2007), *cert. denied*, 552 U.S. 1097 (2008); GDF Realty Invs., Ltd. v. Norton, 326 F.3d 622 (5th Cir. 2003), *cert. denied*, 545 U.S. 1114 (2005); Rancho Viejo, LLC v. Norton, 323 F.3d 1062 (D.C. Cir. 2003), *cert. denied*, 540 U.S. 1218 (2004); Gibbs v. Babbitt, 214 F.3d 483 (4th Cir. 2000), *cert. denied sub nom.*, Gibbs v. Norton, 531 U.S. 1145 (2001); Nat'l Ass'n of Home Builders v. Babbitt, 130 F.3d 1041 (D.C. Cir. 1997), *cert. denied*, 524 U.S. 937 (1998).

127. 456 U.S. 742, 757 (1982).

producers.[128] In 1981, Ohio enacted a statute providing fuel dealers with tax credits for using ethanol; the tax credits could then be used against the state's motor vehicle fuel sales tax.[129] In 1984, Ohio limited the tax credit to the use of ethanol produced in Ohio or in states that offered a reciprocal tax credit to Ohio-made ethanol.[130] This revision, the Court held, clearly constituted discriminatory legislation under the Dormant Commerce Clause, as it "explicitly deprives certain products of available beneficial tax treatment because they are made in certain other states."[131] That Ohio only withheld favorable tax treatment and did not seek to close its borders entirely to ethanol from states without reciprocal policies was of no consequence. It was sufficient that the law at issue imposed "an economic disadvantage upon out-of-state sellers."[132] As Justice Scalia explained in his opinion for the Court: "Where discrimination is patent, as it is here, neither widespread advantage to in-state interests nor a widespread disadvantage to out-of-state competitors need be shown."[133]

Ohio sought to defend its policy on the ground that it was not discriminatory but instead an effort to encourage other states to provide similarly favorable treatment to ethanol.[134] Should all such states enact such policies, Ohio reasoned, there would be no discrimination. This was a clever argument, but none of the Justices bit. As Justice Scalia noted, prior cases had made it quite clear that a state could not "use the threat of economic isolation to force sister States" to adopt reciprocal or otherwise favorable policies.[135] Even where states claimed they were seeking to conserve vital in-state resources, the Court did not shrink from labeling such laws "facially discriminatory."[136]

State regulatory efforts to encourage the use of in-state coal have not fared much better than Ohio's in-state ethanol preferences. In *Wyoming v. Oklahoma*, the Court threw out an Oklahoma law mandating that at least ten percent of the coal

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128. 486 U.S. 269, 280 (1988).
129. *Id.* at 272; Act of June 10, 1981, § 1, 1981 Ohio Laws 1693, 1731–32 (codified as amended at OHIO REV. CODE ANN. § 5735.145 (West 2007)).
130. *New Energy Co.*, 486 U.S. at 272; OHIO REV. CODE ANN. § 5735.145 (West 2007).
131. *New Energy Co.*, 486 U.S. at 274.
132. *Id.* at 275.
133. *Id.* at 276.
134. *Id.* at 274.
135. *Id.* (quoting Great Atl. & Pac. Tea Co. v. Cottrell, 424 U.S. 366, 378 (1976)).
136. *Id.* at 274–75 (citing Sporhase v. Nebraska, 458 U.S. 941 (1982)).

burned in coal-fired utilities come from Oklahoma mines.[137] Wyoming challenged the law, on behalf of its coal producers, as Oklahoma utilities had obtained nearly all of their coal from Wyoming.[138] As far as the Court was concerned, this was "not a close case."[139] A law expressly reserving a portion of the Oklahoma coal market for Oklahoma coal could not be anything but protectionist and discriminatory. That only ten percent of the market was affected was irrelevant: "The volume of commerce affected measures only the *extent* of the discrimination; it is of no relevance to the determination whether a State has discriminated against interstate commerce."[140] Quoting *New Energy Co.*, the Court reiterated that where there is such "patent" discrimination, there is no need to show "widespread advantage to in-state interests nor a widespread disadvantage to out-of-state interests" to subject the law to the virtual *per se* rule of invalidity.[141]

Following the Supreme Court's lead in *Wyoming v. Oklahoma*, the United States Court of Appeals for the Seventh Circuit struck down efforts by Illinois and Indiana legislators to protect local production of high-sulfur coal from low-sulfur coal mined in western states.[142] The 1977 CAA Amendments had protected high-sulfur coal by mandating the installation of scrubbers in newly constructed coal-fired power plants.[143] This eliminated the incentive for Midwestern utilities to use low-sulfur coal, as it was more expensive than the high-sulfur coal, closer to home, and could no longer be used to satisfy environmental requirements.[144] In 1990, however, Congress replaced the scrubber requirement with a more performance-driven regulatory regime.[145] This change

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137. 502 U.S. 437, 461 (1992). Justice Thomas dissented, joined by Justice Scalia and Chief Justice Rehnquist, on the grounds that the state of Wyoming lacked standing to challenge Oklahoma's law. *Id.* at 461 (Thomas, J., dissenting). Justice Thomas's dissenting opinion offered no judgment on the underlying Dormant Commerce Clause question. *Id.* at 461–77.

138. *Id.* at 445.

139. *Id.* at 455 n.12.

140. *Id.* at 455.

141. *Id.* (quoting New Energy Co. of Ind. v. Limbach, 486 U.S. 269, 276–77 (1988)).

142. *See* Alliance for Clean Coal v. Miller (*Alliance I*), 44 F.3d 591, 596–97 (7th Cir. 1995); Alliance for Clean Coal v. Bayh (*Alliance II*), 72 F.3d 556, 560–61 (7th Cir. 1995).

143. *See Alliance I*, 44 F.3d at 593. *See also* BRUCE A. ACKERMAN & WILLIAM HASSLER, CLEAN COAL, DIRTY AIR (1981); 1977 Clean Air Act Amendments, Pub. L. No. 95-95, § 109(e), 91 Stat. 685, 701 (1977).

144. *Alliance I*, 44 F.3d at 593.

145. *See id. See also* Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399 (1990).

made high-sulfur coal more cost competitive and "meant the end of the salad days for high-sulfur coal-producing states."[146]

In response to Congress's revisions to the CAA, Illinois and Indiana enacted laws designed to protect in-state coal producers from low-sulfur coal competition.[147] In Illinois, this took the form of, among other things, requiring the state's largest power plants to install scrubbers, guaranteeing that the cost of these scrubbers could be included in the utilities' rate base and mandating state approval before a utility could reduce its use of Illinois coal by more than ten percent.[148] The Seventh Circuit readily concluded that this form of "encouragement"[149] was traditional economic protectionism in another guise.[150] Requiring utilities to install scrubbers eliminated any incentive to use low-sulfur coal as a means of complying with relevant air pollution regulations, and thus had the same economic effect as a tariff on the importation of such coal from out-of-state.[151] Such efforts to protect local industry "from the rigors of interstate competition," the court concluded, were "the hallmark of economic protection that the Commerce Clause prohibits."[152]

Indiana's effort to protect in-state coal producers was less aggressive, but no more successful. The Indiana statute subjected utilities that failed to ensure continued use of Indiana coal to greater regulatory scrutiny.[153] Specifically, it provided that for the Indiana Utility Regulatory Commission to approve a utility's plan to comply with the requirements of the federal CAA, it had to find that the plan would provide "for continued or increased use of Indiana coal," unless this failure could be justified "by economic considerations including the effects in the regions of Indiana in which the mining of coal provides employment and in the service territory of the public utility."[154] As with Illinois's law, the Seventh Circuit saw a clear effort to protect in-state producers from out-of-

146. *Alliance I*, 44 F.3d at 593.

147. Illinois Coal Act, 220 ILL. COMP. STAT. 5/8-402.1 (1993); Indiana Environmental Compliance Plans Act IND. CODE §§ 8-1-27-1 to 8-1-27-23 (1991).

148. *Alliance I*, 44 F.3d at 594.

149. *See id.* at 599. *See also Alliance I*, 44 F.3d at 596 (referring to Illinois' argument that the Illinois law was merely encouraging local industry throughout).

150. *Alliance I*, 44 F.3d at 595–96.

151. *Id.* at 595.

152. *Id.* at 596 (quoting W. Lynn Creamery, Inc. v. Healy, 512 U.S. 186, 205 (1994)).

153. *See* Alliance for Clean Coal v. Bayh (*Alliance II*), 72 F.3d 556, 558 (7th Cir. 1995). *See also* IND. CODE § 8-1-27-8 (2001).

154. *Alliance II*, 72 F.3d at 558; IND. CODE § 8-1-27-8(1) (1991).

state competition. That the law may have been less rigid was of no consequence, as it still discriminated "against interstate commerce based solely on geographic origin."[155] As the court explained:

> While we do not doubt that a healthy Indiana mining industry and a fully employed workforce may aid Indiana in achieving a low cost electrical service, that is not a legitimate justification for discrimination against interstate commerce. Protection of local, or even regional, industry is simply not a legislative action that is consistent with the Commerce Clause.[156]

Insofar as the Illinois or Indiana legislatures desired to aid in-state coal producers, they could not use discriminatory legislation to achieve this end.[157]

Restrictions on energy exports are no more permissible than limitations on imports. Thus, in 1982, the Court invalidated a decision by the New Hampshire Public Utility Commission (PUC) denying a utility the permission to sell hydroelectric power generated within the state to out-of-state customers.[158] The New England Power Company (NEPC) was a regional utility that operated several hydroelectric generating stations in New Hampshire.[159] Because the state's largest electric utility, the Public Service Company of New Hampshire, had higher generating costs, the PUC concluded that if NEPC were required to sell all of its in-state hydroelectric power within New Hampshire, it would reduce local electric rates.[160] Such a requirement is impermissible, the Court concluded, because the Dormant Commerce Clause "precludes a state from mandating that its residents be given a preferred right of access, over out-of-state consumers, to natural resources located within its borders or to the products derived therefrom."[161] Hydroelectric power, like widgets or waste disposal services, is a "privately owned article[] of trade" beyond the reach

155. *Alliance II*, 72 F.3d at 560.
156. *Id.*
157. A somewhat milder effort to encourage the use of in-state coal by the Commonwealth of Virginia fared better against legal challenge, albeit in state court. *See* Appalachian Voices v. State Corp. Comm'n, 675 S.E.2d 458 (Va. 2009). Although one might argue the Virginia statute was not as overtly discriminatory, the law does appear to favor facilities that use in-state coal in the regulatory process, so it is not clear that this statute is readily distinguishable from the laws invalidated in the two *Alliance for Clean Coal* cases.
158. New Eng. Power Co. v. New Hampshire, 455 U.S. 331, 344 (1982).
159. *Id.* at 333–34.
160. *Id.* at 336.
161. *Id.* at 338.

of such protectionist legislation.[162] Although Congress retains the authority to authorize such restrictions, states may not enact such trade restrictions on their own. Similarly, under the market participant exception, a state could construct or acquire its own hydroelectric facilities and operate them for the benefit of state residents or simply provide subsidies for desired energy sources from its budget.[163] Again, however, it cannot achieve this goal through the regulation of private actors.

Some state and local governments have adopted laws restricting the through traffic of energy sources, including coal.[164] Such policies, even if not preempted by federal laws governing transportation, may also run afoul of the Dormant Commerce Clause. As noted above, the *Pike* test prohibits state laws that impose a disproportionate burden on interstate commerce in relation to any putative local benefits.[165] Under this test, laws that have the purpose or effect of obstructing the transportation of fuel sources through a state would be suspect, unless they could be justified as necessary to protect identifiable local concerns. Most suits challenging these sorts of restrictions, however, have been

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162. *Id.*

163. *See* New Energy Co. of Ind. v. Limbach, 486 U.S. 269, 278 (1988) ("Direct subsidization of domestic industry does not ordinarily run afoul [of the DCC's] prohibition . . .").

164. *See, e.g.*, Tom Lochner et al., *Richmond, Berkeley councils vote to oppose transport of highly flammable crude oil through the East Bay,* CONTRA COSTA TIMES (Mar. 26, 2014, 4:17 PM), http://www.contracostatimes.com/news/ci_25426813/richmond-berkeley-councils-vote-oppose-transport-highly-flammable, archived at http://perma.cc/CR5K-B3EK; Edward McAllister, *New U.S. West Coast energy projects face tough opposition*, REUTERS (March 25, 2014, 9:29 AM), http://www.reuters.com/article/2014/03/25/us-usa-energy-west-coast-idUSBREA2O09M20140325, archived at http://perma.cc/RM6H-WUC3; Jeff Shuttleworth, *Berkeley City Council Votes to Oppose Plan to Transport Dangerous Crude Oil Through City*, THE BERKELEY DAILY PLANET (Mar. 24, 2014, 5:21 PM), http://www.berkeleydailyplanet.com/issue/2014-03-21/article/41952?headline=Berkeley-City-Council-Votes-to-Oppose-Plan-to-Transport-Dangerous-Crude-Oil-Through-City--By-Jeff-Shuttleworth, archived at http://perma.cc/6U28-9N53; Jessica Knoblauch, *Coast-To-Coast Opposition to Exporting Dirty Energy*, EARTHJUSTICE (Mar. 13, 2014), http://earthjustice.org/blog/2014-march/coast-to-coast-opposition-to-exporting-dirty-energy, archived at http://perma.cc/BQT3-5GNT; Scott Learn, *Portland City Council Passes Resolution Against Coal Trains*, THE OREGONIAN (Sept. 19, 2012, 8:34 PM), http://blog.oregonlive.com/environment_impact/print.html?entry=/2012/09/portland_city_council_passes_r.html, archived at http://perma.cc/HDG9-T3WY; Nicholas K. Geranios, *Environmental Groups Upset About Coal Trains*, THE SEATTLE TIMES (Oct. 26, 2011, 12:21 PM), http://seattletimes.com/html/localnews/2016612084_apwacoaltrainsspokane1stldwritethru.html, archived at http://perma.cc/Q7UM-RYXA.

165. *See supra* Part II.B.2.

resolved without reaching the constitutional question.[166] The Federal Railway Safety Act, for instance, preempts state and local laws that obstruct or burden interstate rail traffic, providing courts with a statutory basis for invalidating such state policies.[167] Yet even if such laws are not preempted, they could still be struck down.

IV. VULNERABLE STATE ENERGY POLICIES

States have enacted a wide range of policies designed to reduce the adverse environmental consequences of energy production and encourage greater use of renewable or low-carbon energy sources. Many of these policies, including direct subsidies to alternative energy producers and regulations directly controlling pollution or other environmental harms, are perfectly constitutional. Other policies, however, including some renewable portfolio standards and California's low-carbon fuel standards, may run afoul of current Dormant Commerce Clause doctrine.[168]

A. Renewable Portfolio Standards

Over the past decade, a majority of states has adopted a Renewable Portfolio Standard (RPS) to encourage the use of renewable energy sources and reduce GHG emissions.[169] An RPS, sometimes referred to as a "Renewable Electricity Standard" or RES, is a requirement that utilities and other retail sellers of electricity source a minimum percentage of their power from a defined set of "renewable" sources.[170] Under existing programs,

166. *See, e.g.*, Duluth, Winnipeg, & Pac. Ry. Co. v. City of Orr, 529 F.3d 794 (8th Cir. 2008) (local law limiting speed of trains passing through jurisdiction preempted by Federal Railway Safety Act); CSX Trans., Inc. v. Williams, 406 F.3d 667 (D.C. Cir. 2005) (local law prohibiting transportation of hazardous materials through district preempted by Federal Railroad Safety Act).

167. *See Duluth, Winnipeg, & Pac. Ry. Co.* 529 F.3d at 799–800; *CSX Trans.*, 406 F.3d at 673.

168. *See* Lee & Duane, *supra* note 12*,* at 313–53; Coleman, *supra* note 1.

169. *See* Endrud, *supra* note 37 (noting that a majority of states already have renewable portfolio standards). "Indeed, [by 2012,] thirty states and the District of Columbia had adopted an RPS . . ." Lee & Duane, *supra* note 12, at 298. *See also* Neal J. Cabral, *The Role of Renewable Portfolio Standards in the Context of a National Carbon-Cap-and-Trade Program*, 8 SUSTAINABLE DEV. L. & POL'Y 13, 13 (2007) (noting that the "primary perceived benefit" of RPS programs is a reduction in GHG emissions).

170. *See* Anne Havemann, *Surviving the Commerce Clause: How Maryland Can Square Its Renewable Energy Laws with the Federal Constitution*, 71 MD. L. REV. 848, 858 (2012) (describing state renewable energy laws). *See also id.* at

the minimum amount of renewable power required ranges from 4% to 30%.[171] Some programs impose a minimum requirement that is scheduled to increase over time.[172] RPS requirements are necessary to induce greater use of renewable power because renewable power tends to be significantly more expensive than nonrenewable alternatives.[173] RPS proponents hope that requiring the greater use of renewable power sources will boost the market for renewable power and help bend the renewable cost curve downward.[174]

Iowa enacted the first state RPS in 1983.[175] It would be more than ten years before another state (Nevada) would follow.[176] After the turn of the century, however, RPSs began to proliferate. There were seven state RPSs in 2002,[177] and 28 by 2009, accounting for approximately 50% of the electricity load in the United States.[178] By January 2012, the Energy Information Administration reported that 30 states and the District of Columbia had enacted enforceable RPS laws, and another seven states had adopted non-binding renewable portfolio goals.[179] Some proponents of renewable power hope that the adoption of state-level RPS standards might

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885 n.3 (citing state renewable energy laws called both renewable energy standards and renewable portfolio standards).

171. *See* FRED BOSSELMAN, ET AL., ENERGY, ECONOMICS AND THE ENVIRONMENT: CASES AND MATERIALS 877 (3d. ed. 2010).

172. *See California Renewable Energy Overview and Programs*, CAL. ENERGY COMM'N, http://www.energy.ca.gov/renewables/, archived at http://perma.cc/9Y6Y-Z7XV (last visited Oct. 8, 2014) (providing a timeline of the California RPS and noting an increase in the California RPS's target percentage from 20% of retail sales to 33% of retail sales by 2020); COLO. REV. STAT. § 40-2-124(1)(c)(I)(E) (2010) (increasing the Colorado RPS's target percentage from 20% of retail sales to 30% of retail sales by 2020).

173. Endrud, *supra* note 37, 263. ("[T]he very fact that such programs must be imposed by state regulators suggests the obvious—that electrical power usually cannot be produced as inexpensively from renewable sources as it can be from nonrenewable sources.").

174. *See* Engel, *supra* note 114, at 262. ("Renewable portfolio standards are designed to make renewables competitive with other sources of energy in the long run.") (footnote omitted).

175. *See* Lincoln L. Davies, *Power Forward: The Argument for a National RPS*, 42 CONN. L. REV. 1339, 1357 (2010).

176. *See* Jeremiah I. Williamson & Matthias L. Sayer, *Federalism in Renewable Energy Policy*, 27 NAT. RESOURCES & ENV'T 19, 20 (2012).

177. *See* Endrud, *supra* note 37, at 262–63.

178. *See* BOSSELMAN, *supra* note 171, at 875.

179. *See Most states have Renewable Portfolio Standards*, ENERGY INFO. ADMIN., (Feb. 3, 2012), http://www.eia.gov/todayinenergy/detail.cfm?id=4850, archived at http://perma.cc/7TZ7-N56S.

eventually spur the adoption of a federal RPS standard.[180] Thus far, legislation to create a federal RPS has been proposed, but not yet adopted.[181]

In a typical RPS program, electricity retailers may produce the electricity themselves or purchase qualifying renewable electricity from other producers or wholesalers.[182] Under most RPS programs, retailers may also purchase tradable renewable energy credits (also known as renewable energy certificates or RECs) to fulfill their RPS obligations.[183] The use of RECs facilitates the development of renewable power by, among other things, relieving renewable power producers "from the need to deliver the renewable electricity in real time to the ultimate users."[184] The use of RECs can also lower the costs of complying with RPS requirements.[185] "RECs have become the dominant mechanism of RPS compliance."[186]

Different states have adopted different definitions for what constitutes "renewable" power, as well as what qualifies as an REC, how long the credits last, and whether they may be "banked."[187] Solar, wind, biomass, and gas captured from landfills typically qualify as renewable power sources under state RPS programs.[188] In some states, the RPS also includes a specified "carve-out" that must be filled with solar power.[189] Other sources

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180. *See* J.R. DeShazo & Jody Freeman, *Timing and Form of Federal Regulation: The Case of Climate Change*, 155 U. PA. L. REV. 1499, 1533–38 (2007) (citing examples of state efforts to encourage federal action). *See also* Lee & Duane, *supra* note 12, at 354 (arguing for a federal RPS as an alternative to protect vulnerable RPS policies).

181. For an explanation for why a national RPS has not passed, and is unlikely to be enacted in the near future, *see* Jim Rossi, *The Shaky Political Economy Foundation of a National Renewable Electricity Requirement*, 2011 U. ILL. L. REV. 361 (2011).

182. *See* Havemann, *supra* note 170, at 858–60.

183. *Id.*

184. K.S. CORY & B.G. SWEZEY, RENEWABLE PORTFOLIO STANDARDS IN THE STATES: BALANCING GOALS AND IMPLEMENTATION STRATEGIES, NAT'L RENEWABLE ENERGY LAB. 3 (2007), *available at* http://www.nrel.gov/docs/fy08osti/41409.pdf, archived at http://perma.cc/4QPJ-L3TW.

185. Benjamin K. Sovacool & Christopher Cooper, *Congress Got It Wrong: The Case for a National Renewable Portfolio Standard and Implications for Policy*, 3 ENVTL. & ENERGY L. & POL'Y J. 85, 138–39 (2008).

186. CORY & SWEZEY, *supra* note 184.

187. Steven Ferrey, *Threading the Constitutional Needle With Care: The Commerce Clause Threat to the New Infrastructure of Renewable Power*, 7 TEX. J. OIL GAS & ENERGY L. 59, 65–66 (2012).

188. *See id.* at 65. *See also RPS Data*, DATABASE OF STATE INCENTIVES FOR RENEWABLES AND EFFICIENCY, http://www.dsireusa.org/rpsdata/index.cfm, archived at http://perma.cc/9EDH-TQAS (last visited Oct. 8, 2014).

189. Ferrey, *supra* note 187, at 67.

of renewable power, such as tidal power and municipal waste, only qualify in some states.[190] Some sources of power that are not typically considered to be renewable, nonetheless, qualify under some state programs. Pennsylvania, for example, has a particularly capacious definition of what constitutes "renewable power," counting fossil fuel gasification, distributed generation from non-renewable sources, and co-generation.[191]

Many states have adopted definitions of "renewable" power in their RPS programs that privilege in-state producers.[192] These in-state privileges can take many forms. Massachusetts, for example, created an RPS Solar Carve-Out requiring a minimum percentage of the RPS requirement to be filled with power generated from newly-constructed, in-state solar photovoltaic projects.[193] Four other states—California, Colorado, North Carolina, and Ohio—limit the portion of their RPS that may be met with out-of-state power.[194] Other states privilege in-state producers by adopting REC "multipliers" for in-state producers, under which the volume of credits from renewable power generation is greater for in-state producers.[195] Still, others provide multipliers or preferences for in-state producers that utilize in-state labor or in-state materials.[196] Some states also adopt regional preferences, privileging producers in a given region, such as those defined by a regional transmission organization, rather than a single state.[197] Only seven states with RPS programs lack any in-state or geographically-defined preference.[198]

In-state production requirements are sometimes justified as an attempt to offset some of the economic costs of mandating the

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190. *Id.* at 65.

191. Pennsylvania's list of eligible power sources includes:

> Solar Water Heat, Solar Space Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Fuel Cells, Geothermal Heat Pumps, Municipal Solid Waste, CHP/Cogeneration, Waste Coal, Coal Mine Methane, Coal Gasification, Anaerobic Digestion, Fuel Cells using Renewable Fuels, Other Distributed Generation Technologies.

See Pennsylvania Incentives/Policies for Renewables & Efficiency, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (Aug. 9, 2012), http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=PA06R&re=0&ee=0, archived at http://perma.cc/G42D-Z9FC.

192. *See* Ferrey, *supra* note 187.

193. *Id.* at 67. Other types of geographic restrictions include requirements that eligible RECs be sold to in-state consumers. *Id.* at 69.

194. *Id.* at 74–75.

195. *Id.* at 72–73.

196. *Id.* at 79.

197. Ferrey, *supra* note 187, at 114–22.

198. *Id.* at 79.

purchase of more expensive renewable power by providing local economic benefits.[199] It is also likely that the adoption of preferences for in-state renewable power has facilitated the passage of RPS programs by providing benefits to concentrated in-state economic interests. In this regard, at least some state RPS requirements may be seen as the result of the sort of "Baptist and Bootlegger" coalition common in environmental policy.[200]

Whatever the purported justification of such requirements, policies privileging in-state renewable power sources raise obvious Dormant Commerce Clause problems and have already been challenged in federal court.[201] As noted above, courts have readily struck down state regulations that privilege in-state power over out-of-state alternatives.[202] In 2010, Transcanada Power Marketing sued the Commonwealth of Massachusetts over its RPS, and Massachusetts promptly settled, avoiding a potentially adverse court judgment.[203] Other litigation against allegedly discriminatory RPS programs is ongoing.[204] Whatever the justification, there is little question that limitations on the use of out-of-state power to satisfy a state's RPS requirement qualify as discriminatory

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199. *See* Endrud, *supra* note 37, at 264 ("These economic benefits, namely the jobs and commercial revenue created by construction and operation of new renewable energy generation facilities, can at least partially offset RPS programs' overall costs to state citizens."). Although such requirements may offset some of the economic costs of imposing an RPS, it is rare that the economic benefits will rival the economic costs of the program. *See* ANDREW P. MORRISS ET AL., THE FALSE PROMISE OF GREEN ENERGY (2011).

200. On the "Baptist and Bootlegger" phenomenon, in general, *see* Bruce Yandle, *Bootleggers and Baptists-The Education of a Regulatory Economist*, 7 REG. 12 (1983); Bruce Yandle, *Bootleggers and Baptists in Retrospect: The Marriage of High-Flown Values and Narrow Interests Continues To Thrive*, 22 REG. 5 (1999). *See also* Yandle & Buck, *supra* note 60.

201. *See* Ferrey, *supra* note 187; Klass & Henley, *Energy Policy*, *supra* note 12. *See also* Lee & Duane, *supra* note 12.

202. *See supra* Part III.

203. *Partial Settlement Agreement*, MA. EXEC. OFFICE OF ENERGY ENVTL. AFFAIRS (2010), http://www.mass.gov/eea/docs/doer/renewables/solar/settlement-agreement.pdf, archived at http://perma.cc/7T3J-5K2E; Michael Flett, *Massachusetts and TransCanada Reach Partial Settlement*, FLETTEXCHANGE (June 3, 2010), http://markets.flettexchange.com/2010/06/03/massachusetts-and-transcanada-reach-partial-settlement/, archived at http://perma.cc/JC83-2T2G.

204. Ferrey, *supra* note 187, at 137–42. In particular, on May 9, 2014, the U.S. District Court for the District of Colorado summarily dismissed, among other things, a broad Dormant Commerce Clause challenge against Colorado's RES. Energy & Env't Legal Inst. v. Epel, No. 11-cv-00859-WJM-BNB, 2014 WL 1874977 (D. Colo. May 9, 2014). Appellate review is forthcoming. Press Release, Energy & Env't Legal Inst., Colorado RES Decision Paves Way for 10th District Appeal (May 9, 2014), *available at* http://eelegal.org/?p=2972, archived at http://perma.cc/C4UH-2H7A.

measures. As Judge Richard Posner summarily concluded in a recent decision, a state may not "discriminate against out-of-state renewable energy," such as by refusing to credit renewable energy produced out-of-state toward a state-based RPS.[205]

Lower courts appear to share Judge Posner's view. In April 2014, a federal district court in Minnesota invalidated portions of Minnesota's Next Generation Energy Act, which sought to limit increases in "statewide power sector carbon dioxide emissions" by barring utilities from importing electricity from out-of-state coal-fired power plants.[206] Minnesota's policy, the court concluded, was impermissibly extraterritorial because it effectively regulated out-of-state transactions.[207] This result was unavoidable because the electricity grid "does not recognize state boundaries" and, because of the nature of the electricity grid, the law would restrict electricity contracts between out-of-state producers and consumers.[208]

If states are not allowed to discriminate against out-of-state coal or ethanol producers, there is little reason to suspect they can discriminate against out-of-state renewable energy producers. Advocates of such policies argue that states adopting in-state preferences, such as limits on the use of out-of-state RECs, are "guilty of nothing more than trying to ensure clean air in an efficient manner."[209] Yet, if the goal is to ensure "clean air" in the most efficient manner possible, the state policy would focus on emissions directly, rather than rely upon the development of alternative energy sources as a proxy. As the courts have held in other contexts, environmental concerns justify environmental measures, not discriminatory measures against out-of-state actors.[210]

The Dormant Commerce Clause, as traditionally enforced, should prevent states from adopting facially discriminatory RPS policies. Whatever the merits of RPS policies generally,[211] the

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205. *See* Ill. Commerce Comm'n v. Fed. Energy Regulatory Comm'n, 721 F.3d 764, 776 (7th Cir. 2013), *cert. denied*, 134 S. Ct. 1277 (2014).

206. *See* North Dakota v. Heydinger, No. 11-CV-3232 (SRN/SER), 2014 WL 1612331, at *3 (D. Minn. Apr. 18, 2014).

207. *Id.* at *22–23.

208. *Id*.

209. *See* Engel, *supra* note 114, at 246.

210. Indeed, as stated in *Or.Waste Sys. Inc. v. Dep't of Envtl. Quality*, discrimination "simply means differential treatment of in-state and out-of-state economic interests that benefits the former and burdens the latter." 511 U.S. 93, 99 (1994). Accordingly, "the purpose of, or justification for, a law has no bearing on whether it is facially discriminatory." *Id.* at 100.

211. However, RPSs are not without their critics. Professor Robert Michaels is particularly vocal in his opposition to RPSs. Professor Michaels argues that

interests they serve can be advanced through non-discriminatory measures. Clever states, however, may find ways to define the relevant requirements in a facially neutral manner that nonetheless inures to the benefit of in-state interests.[212] For example, it may be possible to define eligible renewable energy sources in ways that take advantage of a state's comparative advantages, perhaps due to unique geographic or other features.[213] Yet, if states are too aggressive in this regard, the policies could nonetheless fall to Dormant Commerce scrutiny should courts recognize such policies as having the "purpose or effect" of discriminating against out-of-state actors.[214]

If the goal of RPS programs is to encourage the production of renewable energy and reduce energy-related pollution, including pollution caused by the emission of GHGs, these interests are readily advanced through non-discriminatory legislation. The problem for states, however, may be that many of these benefits extend beyond state boundaries, and are thus not readily captured within the state. This "mismatch" between the costs of such programs—which will fall upon in-state consumers—and their benefits, which will be dispersed—could make it difficult to enact RPS laws at the state level.[215] While the use of discriminatory

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RPSs are inefficient and will "reduce[] emissions at [a] higher cost than necessary." Robert J. Michaels, *National Renewable Portfolio Standard: Smart Policy or Misguided Gesture?*, 29 ENERGY L.J. 79, 81 (2008). After all, constraining different forms of energy does not mean constraining emissions. Requiring a higher percentage of renewables will lead to the displacement of more costly forms of energy, like natural gas, rather than the less costly forms of energy, like coal, which yield relatively more emissions. *Id.* at 86–87. Further, RPSs often ignore the possibility of efficiency improvements, which are a less costly option and can reduce just as much pollution as renewables. *Id.* at 87–88. With regard to a federal RPS, Professor Michaels argues a federal RPS would be inequitable, a byproduct of self-serving politics. Under a federal RPS, states lacking in renewable energy resources will be forced to buy energy and RECs from renewable-rich states, merely amounting to a transfer of wealth between states. *Id.* at 91–92.

212. *See* Carolyn Elefant & Edward A. Holt, *State RPS Policy Report: The Commerce Clause and Implications for State Renewable Portfolio Standard Programs*, CLEAN ENERGY STATES ALLIANCE 14–15 (2011), http://www.cesa.org/assets/Uploads/CEG-Commerce-Clause-paper-031111-Final.pdf, archived at http://perma.cc/A2M5-LMDU.

213. Many New England states have been able to effectively exclude cheap Canadian hydropower from their respective RPSs by setting limitations on the construction date and the qualifying size of the hydroelectric projects. *See* Coleman, *supra* note 1.

214. *See, e.g.*, Bacchus Imports, Ltd. v. Dias, 468 U.S. 263, 273 (1984).

215. *See generally* Adler, *Hothouse Flowers*, *supra* note 58.

provisions may help explain why so many states have enacted RPS policies, not all states have resorted to such measures.

B. California Low-Carbon Fuel Standard

California has long been a leader in the enactment of environmental policies. Throughout the post-WWII period, California has adopted environmental regulations in advance of most other states, as well as the federal government, often inspiring imitators or spurring federal action.[216] This is true in the context of energy and climate policy as well. California has not only adopted an RPS, it has also enacted a wide-ranging climate bill, AB 32, which requires the imposition of a stationary source cap-and-trade regime and controls on the carbon content of fuels.[217] While all of these measures are somewhat controversial, the latter has raised particularly challenging Dormant Commerce Clause concerns.

As noted above, in 2006 California enacted AB 32—the Global Warming Solutions Act. Concluding that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and environment of California,"[218] the California legislature resolved to reduce the state's GHG emissions to 1990 levels by the year 2020.[219] As part of this effort, the law instructed the California Air Resource Board (CARB) to enact regulations to reduce GHG emissions from the transportation sector,[220] which is alone responsible for an estimated 40% of the state's GHG emissions.[221]

CARB pursued its mission with three measures. First, CARB adopted a series of GHG emission standards for new motor vehicles, something regulators in California alone are permitted to do.[222] Second, CARB sought to reduce annual vehicle miles traveled through a series of planning and land use measures.[223]

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216. *See supra* note 2 and sources cited therein.

217. Assemb. B. 32, 2005-2006 Leg., Reg. Sess. (Cal. 2006) (codified at CAL. HEALTH & SAFETY CODE §§ 38500-38599 (2006)).

218. *Id.* at 2.

219. *Id.* at 6 (codified at CAL. HEALTH & SAFETY CODE §§ 38550–38599 (2006)).

220. *Id.* at 1.

221. *Climate Change Scoping Plan*, CAL. AIR RES. BD. 66, 69 (Dec. 2008), http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf, archived at http://perma.cc/T7YR-SX53.

222. *See* Jonathan H. Adler, *Hothouse Flowers: The Vices and Virtues of Climate Federalism*, 17 TEMP. POL. & CIV. RTS. L. REV. 443, 464 n.86 (2008).

223. *See generally* Joanna D. Malaczynski & Timothy P. Duane, *Reducing Greenhouse Gas Emissions from Vehicle Miles Traveled: Integrating the*

Third, and most significantly for this article, CARB adopted fuel standards to reduce the overall carbon content of transportation fuels used within the state.[224] Specifically, CARB imposed a declining annual cap on the average carbon intensity of transportation fuels sold within the state.[225] As with an RPS, regulated entities may comply themselves or acquire credits to satisfy their regulatory requirements.[226] Thus, each fuel blender must ensure that the average carbon intensity of its fuel remains below the annual limit, either by blending fuels with a lower carbon content or by acquiring credits from other regulated entities that have exceeded their regulatory requirements.

Because GHGs emitted anywhere have the same effect on the atmosphere, CARB elected to use a "lifecycle analysis" to determine the carbon intensity of transportation fuels.[227] That is, the carbon intensity of a given transportation fuel is determined by the aggregate amount of carbon dioxide-equivalent that is emitted through the "lifecycle" of the fuel—from its initial extraction or production to its eventual combustion in a vehicle and everything in between, including any processing or transporting of the fuel.[228] "Without lifecycle analysis, all GHGs emitted before the fuel enters a vehicle's gas tank would be excluded from California's regulation."[229] By the same token, a fuel standard that focuses on in-state emissions could fail to account for low-carbon production processes or transportation methods. As a consequence, failure to account for the lifecycle of transportation fuels could cause California's regulations to actually increase the very emissions it is seeking to control.

By seeking to account for emissions generated out-of-state, CARB's low-carbon fuel standards immediately raise a red flag under the Dormant Commerce Clause. On its face, such a requirement would appear to be an impermissible extraterritorial regulation. In addition, CARB implemented its fuel standards in ways that appear to be facially discriminatory and trumpeted these

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California Environmental Quality Act with the California Global Warming Solutions Act, 36 ECOLOGY L.Q. 71 (2009).

224. CAL.CODE REGS. tit. 17, §§ 95480–90 (2011).

225. *Id.* at § 95482.

226. *Id.* at § 95845.

227. *Id.* at § 95846.

228. "CARB designed the Fuel Standard to account for emissions associated with all aspects of the production, refining, and transportation of a fuel, with the aim of reducing total, well-to-wheel GHG emissions." Rocky Mountain Farmers Union v. Corey, 730 F.3d 1070, 1081 (9th Cir. 2013).

229. *See id.*

effects when promulgating its rules. In making the case for its own rules, CARB determined that reducing the volume of fuels imported from other states would, itself, advance the state's regulatory goals, and CARB explained how encouraging the construction of in-state biorefineries would increase California's tax base and increase local employment.[230]

In order to determine the carbon intensity of a given fuel, CARB adopted a model developed at the Argonne National Laboratory, Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET), that estimates the lifecycle carbon intensity of a fuel based on its type, the feedstock used, the source of energy used during processing, method of transportation to market, and so on.[231] This model generates a default value used for determining a fuels' carbon intensity, though individual producers retain the ability to propose an alternative, individualized assessment at their own expense.[232] Not only does this model effectively penalize fuels for being transported—by incorporating the energy used in such transportation as part of the carbon intensity value—but it also adopts default values based upon the location of where a given fuel is produced.

In the case of ethanol, CARB attributes greater carbon intensity to the production of ethanol in the Midwest than to the production of ethanol in California because Midwestern utilities use more coal than do California utilities.[233] On the other hand, because it is more costly (and energy intensive) to transport the crops used to produce ethanol than to transport ethanol itself, Midwestern ethanol is benefitted insofar as it is produced closer to the source of the crops than is California ethanol.[234] The end result of accounting for geographic location, however, appears to benefit California producers: "California's combination of more efficient plants and greater access to low-carbon electricity outweighs Midwest ethanol's lower transportation emissions."[235]

In the case of crude oil, CARB crafted its regulations so as to try to encourage the use of alternative fuels.[236] Here again, however, state regulators adopted measures that appear discriminatory in that they advantage at least some in-state

230. *California's Low Carbon Fuel Standard: Final Statement of Reasons*, CAL. AIR RES. BD. 479 (2009), http://www.arb.ca.gov/regact/2009/lcfs09/lcfsfsor.pdf, archived at http://perma.cc/EZ8V-XVAB.
231. *Corey*, 730 F.3d at 1081–82.
232. *Id.* at 1082.
233. *Id.* at 1083.
234. *Id.* at 1083–84.
235. *Id.* at 1084.
236. *Id.* at 1085.

producers. First, CARB divided crude oil sources as "existing" or "emerging" based upon whether they already served the California market.[237] CARB also divided crude sources into High Carbon Intensity Crude Oil (HCICO) and Non-HCICO.[238] All existing crude oil sources were assigned the average carbon intensity value for all crude oil in 2006.[239] This intensity was also assigned to emerging Non-HCICO.[240] For emerging HCICO sources, all of which could be assumed to have carbon intensities at least as high as the 2006 average, their actual carbon intensity will be used.[241]

Out-of-state producers challenged CARB's regulatory standards in 2009, and at the time of this writing, the litigation is still ongoing.[242] In *Rocky Mountain Farmers Union v. Goldstene*, a district court judge held that portions of CARB's low-carbon fuel standards were impermissibly discriminatory.[243] Specifically, the court found that the standard "impermissibly discriminates against out-of-state corn ethanol and impermissibly regulates extraterritorially," and issued a preliminary injunction barring enforcement of the standard.[244] The district court also held that while CARB's crude oil regulations were not facially discriminatory, they were discriminatory in purpose and effect.[245]

On appeal, a divided panel of the United States Court of Appeals for the Ninth Circuit reversed, concluding that the ethanol provisions were neither facially discriminatory nor impermissibly extraterritorial, but the court also remanded the case for consideration of whether the ethanol provisions had the purpose or effect of discriminating and, if not, whether the ethanol rules were unduly burdensome on interstate commerce in violation of the *Pike*

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237. *Corey*, 730 F.3d at 1085.
238. *Id.*
239. *Id.*
240. *Id.*
241. *Id.* Note: After these provisions were challenged in federal court, CARB revised these regulations, effective January 2012. "Under the new system, all crude oil is assessed the same carbon intensity value, either the average of the California market in the year of sale or the average from 2010, whichever is higher." *Id.* at 1086.
242. *Corey,* 730 F.3d. at 1107 (remanding the case for consideration of whether the ethanol provisions had the purpose or effect of discriminating and, if not, whether the ethanol rules withstand the *Pike* balancing test).
243. Rocky Mountain Farmers Union v. Goldstene (*Rocky Mountain Ethanol)*, 843 F. Supp. 2d 1071, 1079 (E.D. Cal. 2011), *rev'd in part sub nom. See Corey*, 730 F.3d at 1070.
244. *Id.* at 1078–79.
245. Rocky Mountain Farmers Union v. Goldstene (*Rocky Mountain Crude*), Nos. CV–F–09–2234 LJO DLB, CV–F–10–163 LJO DLB, 2011 WL 6934797, at *12–14 (E.D. Cal. Dec. 29, 2011), *rev'd in part sub nom. Corey*, 730 F.3d 1070.

test.[246] One of the judges on the panel dissented in part, concluding that the ethanol provisions were facially discriminatory in that the carbon intensity of ethanol fuels sold in California are expressly a function of where that ethanol is produced.[247] The Ninth Circuit also unanimously reversed the district court's conclusion that the crude oil standards were discriminatory in purpose or effect.[248]

The district court and dissenting judge on the Ninth Circuit concluded that the ethanol regulations were facially discriminatory because the table delineating the carbon intensity of different ethanol production processes expressly relied upon the location of production as a factor in determining its carbon intensity.[249] "It is not necessary to look beyond the text of the statute to determine that it discriminates against interstate commerce," the Supreme Court explained in *Camps/Newfound Owatonna, Inc. v. Town of Harrison*.[250] Relying upon this admonition, Judges O'Neill and Murguia simply looked at the relevant rules and found an impermissible location-based constraint.[251] For instance, Table 6 assigned different default carbon intensity values to Midwestern and California ethanol producers utilizing the same production processes.[252] As Judge Murguia wrote in her dissent on the Ninth Circuit, "Table 6 differentiates between in-state and out-of-state ethanol, according more preferential treatment to the former at the expense of the latter."[253]

The Ninth Circuit majority saw things differently and stressed "the grave need in this context for state experimentation."[254] Assigning different carbon intensity values to fuels produced in different locations would not be discriminatory, the majority concluded, if there was "some reason, apart from their origin, to treat them differently."[255] If, as the Supreme Court suggested in *Oregon Waste Systems v. Department of Environmental Quality,*[256] a state could charge a differential fee for the disposal of out-of-state waste if such waste "did impose higher costs" on the disposal

246. *Corey*, 730 F.3d at 1107.
247. *Id.* at 1107–10 (Murguia, J., concurring in part and dissenting in part).
248. *Id.* at 1107.
249. *Rocky Mountain Ethanol*, 843 F. Supp. 2d at 1089; *Corey*, 730 F.3d at 1108 (Murguia, J., concurring in part and dissenting in part).
250. 520 U.S. 564, 575–76 (1997).
251. *Rocky Mountain Ethanol*, 843 F. Supp. 2d at 1086; *Corey*, 730 F.3d at 1108.
252. *Rocky Mountain Ethanol*, 843 F. Supp. 2d at 1088.
253. *Corey*, 730 F.3d at 1108.
254. *Id.* at 1097.
255. *Id.* at 1089 (quoting City of Philadelphia v. New Jersey, 437 U.S. 617, 627 (1978)).
256. 511 U.S. 93.

state, then it should be permissible for California to penalize more carbon-intensive, out-of-state fuels if they are, in fact, more carbon intensive.[257] "California's reasonable decision to use regional categories in its default pathways and in the text of Table 6 does not transform its evenhanded treatment of fuels based on their carbon intensities into forbidden discrimination."[258]

Both the district court and dissenting judges accepted that California had a legitimate local purpose in adopting its regulations—addressing the threat of climate change[259]—but concluded California had less discriminatory means of addressing this concern, such as by conducting individualized lifecycle assessments for different fuel producers, instead of relying upon location-based default values.[260] Such an alternative may have been "more difficult or costly," but it would also not have been facially discriminatory.[261]

An alternative approach may have made California's rules facially neutral to satisfy the district court and dissenting judges, but the potential problems of extraterritoriality and discriminatory effect would have remained. In calculating the carbon intensity of different ethanol sources, California not only considered the emissions directly resulting from each stage of the production process, but also those from the *indirect* emissions generated by, for example, anticipated changes in land use resulting from demand for crops to be used in ethanol.[262] California's consideration of the energy sources used in crop cultivation and ethanol production also implicitly penalized ethanol producers for operating in jurisdictions with less stringent GHG emission policies than those in place in the Golden State. If the rule against extraterritorial regulation remains in force, this would seem to be a problem.

Although it acknowledged that California's rules gave favorable treatment to some in-state crude oil sources, the Ninth Circuit upheld the differential treatment on the grounds that the rules did not systematically advantage in-state over out-of-state producers.[263] Specifically, one source of in-state crude was

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257. 511 U.S. at 101 n.5.
258. *Corey*, 730 F.3d at 1097.
259. *Rocky Mountain Ethanol*, 843 F. Supp. 2d at 1093; *Corey*, 730 F.3d at 1109 (Murguia, J., concurring in part and dissenting in part).
260. *Rocky Mountain Ethanol*, 843 F. Supp. 2d at 1093–94; *Corey*, 730 F.3d at 1110 (Murguia, J., concurring in part and dissenting in part).
261. *Corey*, 730 F.3d at 1109 (Murguia, J., concurring in part and dissenting in part).
262. *Rocky Mountain Ethanol*, 843 F. Supp. 2d at 1091.
263. *Corey*, 730 F.3d at 1098–101.

assigned a carbon intensity as an "existing" HCICO less than half of its actual carbon intensity.[264] While other in-state sources did not receive equally favorable treatment, no out-of-state source was similarly advantaged, some were disadvantaged, and assigned carbon intensity values above their actual levels.[265]

The Ninth Circuit concluded that CARB's treatment of crude oil was permissible because CARB did not systematically advantage in-state producers and penalize out-of-state producers. However, this analysis miscomprehends the relevant inquiry. The Supreme Court has repeatedly found state and local measures to be impermissibly protectionist when they have advantaged a subset of local producers, such as those in or around a given locality.[266] Dormant Commerce Clause doctrine is not exclusively concerned with blanket preferences for local-over-foreign products, nor is it necessary for advantaged producers to represent a large share of the relevant market.[267]

The *Rocky Mountain Farmers Union* cases present particularly challenging Dormant Commerce Clause issues. California's low-carbon fuel regulations unquestionably reach out-of-state conduct—how given motor fuels are created—and penalize energy consumption for the transportation of such fuels. In California's defense, accounting for all energy use in the development, production, and transportation of motor fuels is necessary to limit GHG emissions resulting from fuel consumption. Were California to ignore emissions throughout the "lifecycle," and instead adopt regulations solely governing the production and combustion of fuel within the state, it is possible that the state's regulations would actually produce a net increase in carbon emissions. This could occur if, for instance, out-of-state fuel producers gained a competitive advantage by using less costly, but more carbon-intensive, feed stocks and production processes than fuels regulated in the state. Then again, the actual regulations California adopted appear to turn on geographical location more than may have been necessary to account for lifecycle emissions.

One argument in California's defense is particularly telling. Defenders of the fuel standards note that Congress has embraced

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264. *Id.* at 1098.
265. *Id.* at 1098–99.
266. *See supra* Parts III and IV.
267. The Ninth Circuit thought it relevant that the benefited in-state sources comprised 16.1% of the market while disadvantaged in-state sources comprised 22.6% of the market. *Corey*, 730 F.3d at 1099.

reliance upon lifecycle analysis.[268] Perhaps it has, but this does not address the Dormant Commerce Clause concern. The underlying premise of the doctrine is that there are some sorts of regulatory measures that are exclusively within the province of the national government and off limits to the states. Insofar as addressing GHG emissions requires considering the full lifecycle emissions of fuels and products—and insofar as such consideration requires sanctioning transportation and evaluating the implications of a given geographic source location—climate policies of the sort California envisions may well be beyond its reach.

In January 2014, the United States Court of Appeals for the Ninth Circuit denied the challengers' petition for rehearing *en banc*,[269] and in June, the Supreme Court denied both the fuel producers and California's petitions for certiorari.[270] This is not the end of the matter, however, as the case will continue in district court. As Judge Gould explained in his opinion concurring in the denial of rehearing *en banc*, the panel did not "conclusively determine[]" that California's regulations satisfied the Dormant Commerce Clause.[271] Rather, he explained, all the court did was "reject the argument that the LCFS's ethanol provisions facially discriminate against out-of-state commerce."[272] The panel remanded the case for consideration of the challengers' other arguments because the court concluded, "findings of fact and more proceedings in the district court were needed to determine the LCFS's constitutionality."[273]

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268. Debra Kahn, *California Adopts Low-Carbon Fuel Standard*, SCIENTIFIC AM. (Apr. 24, 2009), http://www.scientificamerican.com/article/california-adopts-low-car/, archived at http://perma.cc/AP4X-LYT8.

269. Corey, 730 F.3d 1070 (9th Cir. 2013), *reh'g en banc denied*, 740 F.3d 507 (9th Cir. 2014).

270. The fuel producers sought review of the Dormant Commerce Clause claims. *See* Petition for Writ of Certiorari, Corey, 730 F.3d 1070 (9th Cir. 2013) (No. 13-1148), *cert. denied*, 134 S. Ct. 2875 (2014); Petition for Writ of Certiorari, Am. Fuel & Petrochemicals Ass'n v. Corey, 730 F.3d 1070 (9th Cir. 2013) (No. 13-1149), *cert. denied*, 134 S. Ct. 2875 (2014). California, on the other hand, sought Supreme Court review of the lower courts' conclusion that the Dormant Commerce claims were not preempted by the Clean Air Act. Conditional Cross-Petition for a Writ of Certiorari, Corey v. Rocky Mountain Farmers Union, 730 F.3d 1070 (9th Cir. 2013) (No. 13-1308), *cert. denied*, 134 S. Ct. 2884 (2014).

271. *Corey*, 740 F.3d 507, 509 (9th Cir. 2014) (Gould, J., concurring in the denial of rehearing *en banc*).

272. *Id.*

273. *Id.*

CONCLUSION

Despite the limitations imposed by the Dormant Commerce Clause, states retain ample ability to enact environmental regulations and otherwise control the environmental effects of energy use and production within their borders. States potentially run into trouble when they seek to insulate themselves from the potential competitive effects by enacting potentially costly regulations or extend the reach of their regulatory choices to those in other jurisdictions. So, while states remain free to enact such measures, structural, constitutional limitations may discourage states from enacting desired policies. By some accounts, this is precisely what the Framers would have intended: forcing each jurisdiction to bear the competitive consequences of its own policy choices.[274]

Concerned that interjurisdictional competition may discourage too many states from acting, some commentators believe the Supreme Court is too rigid in its application of these constraints, particularly in the environmental context.[275] Given recent trends in Dormant Commerce Clause jurisprudence, these commentators may get their wish for less stringent enforcement of the doctrine. In recent years, several Justices have expressed dissatisfaction with the doctrine, and the Court appears ready to back away from at least some aspects of the doctrine, such as the bar on extraterritoriality and the balancing of in-state benefits against burdens on interstate commerce under the *Pike* test.[276]

How state climate and energy polices fare in court will ultimately depend on which path the Supreme Court takes. Strict enforcement of the doctrine as it stands could trim the protectionist trappings from many a state's RPS program and limit California's aggressive experimentation with regulation of fuels. A more relaxed approach—potentially driven by the Court's most conservative Justices—would give states greater ability to adopt the energy and climate policies of their choice, even at the expense of out-of-state producers. The fates of state climate change policies and the Dormant Commerce Clause are tied together.

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274. *See generally* MICHAEL S. GREVE, THE UPSIDE-DOWN CONSTITUTION (2013).

275. *See e.g.*, Engel, *supra* note 114; Klein, *Environmental Commerce Clause*, *supra* note 104, at 43–44; Klass & Henley, *Energy Policy*, *supra* note 12.

276. *See* Denning, *supra* note 112; Williams & Denning, *supra* note 103.